

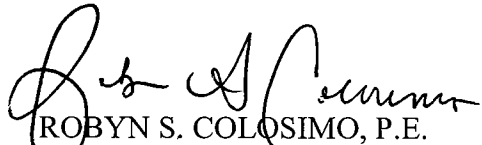
29 March 2007

MEMORANDUM FOR MVD RIT (ATTN: Zoltan Montvai)

SUBJECT: Documentation of Review Findings, Port of Iberia, Louisiana, Final Feasibility Report and Environmental Impact Statement dated October 2006.

1. Reference: CEMVD-DE Memorandum for HQUSACE (CECW-ZA) dated 27 March 2006, subject: Port of Iberia, Louisiana, Final Feasibility Report and Environmental Impact Statement.
2. Enclosed is the Documentation of Review Findings for the subject final report and EIS. All concerns from policy compliance review of the AFB materials, the draft report and DEIS, and the final report and EIS have been resolved.
3. If there are any questions please contact Ms. Becky Moyer at 202-761-0316.

Encl

  
ROBYN S. COLOSIMO, P.E.  
Chief, Office of Water Project Review  
Planning and Policy Division  
Directorate of Civil Works

CF:  
CECW-P (w/encl)  
CECW-PC file

**DOCUMENTATION OF REVIEW FINDINGS  
FINAL FEASIBILITY REPORT AND ENVIRONMENTAL  
IMPACT STATEMENT  
PORT OF IBERIA, LOUISIANA**

**PART I. REVIEW OF THE FINAL FEASIBILITY REPORT AND ENVIRONMENTAL IMPACT STATEMENT.** The review of the Final Feasibility Report and Environmental Impact Statement (EIS) dated October 2006 was completed 4 December 2006, with no additional comments. All of the concerns resulting from review of the draft interim reports and Alternative Formulation Briefing (AFB) material have been resolved or superseded. The full documentation on review of the April 2006 Feasibility Reports/EIS and the AFB materials is included in Part II. Documentation of prior reviews of the feasibility report/EIS and AFB document are provided as **Attachment 1.**

**A. BACKGROUND.**

**1. Project Location.** The study area is bounded by the cities of Lafayette and New Iberia, to the north; the Atchafalaya River to the east; the Vermilion River and Fresh Water Bayou (FWB) to the west; and the Weeks Bay/Vermilion Bay complex and the Gulf of Mexico to the south. Major communities in the study area include New Iberia, Lafayette, Jeanerette, Franklin, Abbeville, and numerous smaller communities. The study area is located in Congressional Districts LA-3 and LA-7.

**2. Study Authority.** The Port of Iberia, Louisiana Study was conducted in accordance with Section 431 of the Water Resources Development Act (WRDA) of 2000, Public Law 106-541, dated 11 December 2000, which reads as follows:

**SEC. 431. IBERIA PORT, LOUISIANA.**

The Secretary shall conduct a study to determine the feasibility of carrying out a project for navigation, Iberia Port, Louisiana.

In May 2005, directive language for evaluating economic justification was published in Section 6009 of the FY 2005 Second Supplemental Appropriations Bill, Public Law 109-13.

*“In determining the economic justification for navigation projects involving offshore oil and gas fabrication ports, the Secretary of the Army, acting through the Chief of Engineers, is directed to measure and include in the National Economic Development calculations the value of future energy exploration and production fabrication contracts and transportation cost savings that would result from larger navigation channels.”*

**3. Problems and Opportunities.** This study focused on examining opportunities to alleviate the problems stemming from the shallow depth of water access to and from

the POI by improving navigation access. Some of the ports along the Gulf of Mexico that were traditionally leaders in shallow water rig component fabrication and rehabilitation have found themselves shut out of the deepwater market due to insufficient draft in existing navigation channels. The Port of Iberia (POI) is one such port. The POI has facilities, infrastructure, and skilled labor in place for fabricating deepwater topsides, but many of the major producers will not consider bids submitted by the POI fabricators due to draft restrictions.

**4. Plan Formulation.** The Port of Iberia, Louisiana Navigation Reconnaissance Report evaluated a range of alternative alignments from the POI to the Gulf of Mexico and recommended a single feasible alignment for further analysis, known as the FWB Alignment. The FWB Alignment incorporates four existing channels – Commercial Canal, west on the GIWW and then south on FWB to the Gulf of Mexico – in order to reduce costs. Vessel dimensions are used to determine both depth and width of a navigation channel. Several proposed channel dimensions were evaluated based on current traffic patterns and projected vessel sizes based on traffic analysis prepared for the USACE. It was determined that the 150-foot channel would adequately serve the majority of vessel traffic and therefore, was the maximum channel width evaluated. Channel depths of 16 feet, 18 feet, and 20 feet NAVD88 channels were evaluated.

**5. Recommended Plan.** The recommended plan at Port of Iberia would provide for the enlargement of GIWW (20 miles), FWB (18 miles) and bar channel (7.5 miles) and Commercial Canal (7.5 miles), with an additional 7 miles through the Port of Iberia itself. The enlarged channel would provide a 16-foot depth and a 150-foot width. Two new concrete barge floodgates with concrete receiving structures would be constructed for salinity control and navigation – one at each end of the FWB Bypass Channel. The least-cost environmentally acceptable method of enlarging the channels to 16-feet deep and 150-feet wide was developed. Dredged material would be used to reestablish the bank line, create marsh, and nourish the shoreline resulting in net positive environmental impacts. The GIWW and FWB channel bank lines would be stabilized to +3.5-feet NAVD88 and +5-feet NAVD88, respectively, with rock armoring that would settle to +1.4-feet NAVD88 (which corresponds to the adjacent marsh elevation) within 5 years. Removals would be required for impacted facilities including oil and gas pipelines and electrical lines. Private and commercial bulkheads impacted by the channel enlargement would be replaced or modified as appropriate. The recommended plan includes features such as floodgates and other features designed to accommodate a 20-foot navigation depth in the anticipation that channel improvements will be warranted in the future.

**6. Construction Costs.** Based on October 2005 price levels, the estimated first cost of the general navigation features (GNF) of the recommended plan is \$123,300,000. The GNF cost includes channel excavation, floodgates, and disposal of dredged materials. The total cost of all features required to obtain the projected navigation benefits, including GNF, LERR, locals service facilities, aids-to-navigation, and utility removals is estimated at \$163,300,000.

**7. Operations and Maintenance (O&M) Costs.** The annual O&M costs for the recommended plan are estimated at \$3,677,000.

**8. Equivalent Annual Economic Benefits and Costs.** Total average annual costs, based on a discount rate of 5 1/8 percent and a 50-year period of analysis, are \$12,795,000, (including the annual O&M costs). Of the 24 possible benefits scenarios, a total of 17 (71 percent of all possible outcomes) are expected to produce positive net benefits and in every one of these outcomes the 16-foot channel alternative produces the highest average annual net benefits and corresponding BCR. The range of average annual net benefits is from a maximum of \$14,193,000 to a minimum of \$562,000 and the range of BCR is from a maximum of 2.16 to a minimum of 1.05, all for the 71 percent of positive outcomes. Given these results, the 16-foot channel alternative was identified as the NED plan and best meets the Federal Criteria for recommending authorization.

**9. Cost-Sharing.** In accordance with Section 101 of WRDA 1986, as amended, the ultimate Federal and non-Federal shares of the GNF are estimated to be \$111,000,000 and \$23,000,000, respectively. The non-Federal portion includes 10 percent of the cost for the GNF and an additional cash payment of 10 percent of costs allocated to GNF, including interest, less credit for land, easements, rights-of-way, and relocations (LERR) over a period not to exceed 30 years. Creditable non-Federal LERR's are estimated to be \$1,700,000. In addition to this amount, the local sponsor, the Louisiana Department of Transportation and Development, and the Port of Iberia will be investing about \$15,700,000 for local service facilities, which include bulkhead modifications and dredging of berthing areas. Utility owners will incur approximately \$22,600,000 for removals and modification of utilities including pipelines that would otherwise obstruct navigation.

**10. Environmental Compliance.** A Final Environmental Impact Statement (FEIS) was completed for the project and was filed with the U.S. Environmental Protection Agency on 27 October 2006. The Notice of Availability was published in the Federal Register on 3 November 2006. The comment period ended on 4 December 2006.

**B. REVIEW HISTORY.** Office of Water Project Review (OWPR) involvement in the Port of Iberia Navigation Feasibility Study began in April 2004 with the Alternative Formulation Briefing (AFB). Both the OWPR and an Independent Technical Review (ITR) team reviewed the AFB packaged submittal. The economic analysis was considered to be fundamentally flawed in that it did not fully take into account competition from other US ports and firms; it assumed increased business profit as the measure of benefits; and it based most market information on the views and opinions of local businesses without independent corroboration. The determination was that the economics should be redone. In summer and fall of 2004, OWPR engaged the Corps Chief Economist and the Deep Draft Navigation Planning Center of Expertise (DDNPCX) in providing guidance and assistance to MVN/MVD on appropriate benefit methodology. As part of this effort, the vertical team reviewed and advised MVD/MVN on their Plan of Study. The vertical team also participated in numerous meeting with the

POI sponsor to explain the situation and discuss the new work efforts. An overriding concern at the time was how to measure NED benefits in light of foreign competition.

In the Spring and early Summer of 2005, working with the Corps' Chief Economist and the DDNPCX, an external independent review panel was convened, as a parallel effort to the District's Reevaluation. The panel's mission was mainly to advise Corps on the appropriate benefit framework for POI and similar situations involving considerable foreign competition. The panel was tasked to review prior reports and background information on POI as well as prior HQ reviews of that material. The panel advice was also sought on how NED benefits should or could be measured. The panel completed its work in September 2005. The panel affirmed the HQ/ITR findings from Spring 2004, agreeing that the prior analyses were not in compliance with Principles & Guidelines (P&G). Additionally, the panel provided an analytical framework that is generally consistent with the Plan of Study developed by MVD/MVN.

In May 2005, directive language was published in Section 6009 of the FY 2005 Second Supplemental Appropriations Bill, Public Law 109-13.

*"In determining the economic justification for navigation projects involving offshore oil and gas fabrication ports, the Secretary of the Army, acting through the Chief of Engineers, is directed to measure and include in the National Economic Development calculations the value of future energy exploration and production fabrication contracts and transportation cost savings that would result from larger navigation channels."*

In early summer of 2005, the vertical team began to get the preliminary results of the MVD/MVN's economic analysis. The analyses determined that 1) there is little or no foreign competition in the production of oil and gas production top sides in the Gulf of Mexico (GOM) market; 2) there is substantial excess productive capacity in the U.S. in the GOM region with businesses operating at less than 50% capacity; and 3) U.S. competition exists at Corpus Christi, TX which already has deep water access, and at Morgan City and Houma, LA. The economic analysis made projections of the number and value of Contracts in GOM and West Coast of Africa that POI could compete for if it had deeper channels. The POI share of these deep water top sides would be about 25% on average, based on its labor force capacity.

In late July 2005, MVD/MVN published a draft feasibility report with a 20-foot channel recommendation. The justification included both Congressionally-directed NED benefits and transportation cost savings. The ITR conducted by the DDNPCX, as well as the OWPR review, identified a number of concerns with the analysis. The ITR and policy review teams were concerned that the economic analysis was unsubstantiated by supporting documentation, particularly with regard to market share assumptions, topside characteristics, including their weight and value. There were also concerns about the design vessel – its availability, capacity, and loading characteristics. The channel design was based on a 78-foot beam cargo vessel, while the economics were driven by a 100-foot beam deck barge. The channel design indicated by a 100-foot beam vessel, according to design criteria, should be closer to 200 feet in width. Any recommendation for a channel significantly smaller than design parameters must be evaluated by a ship

simulation study or receive a waiver from the Corps' Engineering Research and Design Center (ERDC). The ITR comments were not resolved prior to preparation of a final report or convening of the CWRB in October 2005. The ITR and legal certifications were incomplete. At that meeting, the CWRB did not recommend release of the final report and directed MVD/MVN to work with the ITR and OWPR teams to resolve outstanding concerns.

The vertical team, including the PDT, MVN, MVD, HQ-RIT, along with the OWPR, ITR, and Sponsor held a number of teleconferences to develop an action plan to resolve the remaining issues. The plan developed by the vertical team included: a scenario approach utilizing key variables to include market share, contract value and topside weight; better definition of the with and without project conditions; clear description and calculation of transportation cost savings; justification of the channel design and receipt of a ship simulation waiver; description of the design vessel's operating characteristics; and quantification of the national security benefits that could accrue from multiple fabrication capabilities. The intent of the scenario approach (similar to that used on the Upper Mississippi Navigation Study) was to provide a range of benefit-cost ratios. The scenario analysis would define upper and lower bounds of key variables, and accordingly the plan selection would be based on performance across scenarios.

MVD/MVN's economics contractor would collect additional substantiating information, including interviewing oil companies and other potential customers, as well as potential competitors whose firms might also enter the deep-water topsides market. The previous market share analysis included only 3 equally likely possibilities (30% - 25% - 20%), which averages to 25%. POI's estimated share of production capacity was 25% as was their share of shallow-water topside fabrication business – so the report forecast that POI would always capture a portion of a market equivalent to their share of capacity that they would be new and unproven in, without substantiating information. Instead of 3 equally likely market share scenarios, the revised analysis would develop an array of possible futures, and select a plan based on performance across scenarios.

Contract values and topside weights were not well described or documented, largely due to the perception that it was proprietary information. The revised analysis would include scenarios reflecting possible variations in the weights and values of deep-water topsides, and relating them to topside type (SPAR, TLP, FPS, etc). The report was also lacking in definitive information about the design vessel – 400'x100'x25' ocean-going deck barge. The analysis claimed benefits for movements of 15,000-ton topsides without demonstrating existence of actual barges capable of such movements. Without relating the movement to actual barge loading and immersion characteristics, it was impossible to verify channel depth requirements. The transportation savings benefits were to be revised by MVD/MVN with additional supporting documentation provided.

Between December 2005 and April 2006, the vertical team including the PDT, MVN, MVD, HQ MVD RIT, OWPR, SAM-ITR, Sponsor, and contractors had convened in its entirety on 8 occasions, with numerous additional contacts taking place between sub-groups. As the schedule progressed, the vertical team was briefed on new economics and

engineering information as it developed. The new work progressed toward a late February 2006 revised final report, which would be subject to ITR and policy review. The February 2006 report included one forecast only -- a most probable forecast as developed by Infield.

The April 2006 report made a recommendation on the basis of the 24 scenarios. Of the 24 alternatives, 10 indicated deepening is justified for a 20' channel; 4 indicated deepening is justified for a 16' channel; and 10 indicated that no deepening is justified. By April 2006, all but one of the prior ITR concerns was resolved or closed. The \$5M in transportation savings claimed in the previous report was removed by MVD/MVN as unverifiable. Market share/ scenario analysis remained an open issue with the OWPR team.

At the March 10, 2006, in progress review (IPR) held in New Orleans, the fact that the largest topside units were not assumed to move in one assembled piece, but rather in unassembled pieces on one barge was revealed to the ITR and OWPR teams. Accordingly, the 12,000-ton topside was assumed to be an 8,000-ton fabricated structure with 4,000 tons of accompanying fittings (helipads, crew quarters, etc). Likewise, the 15,000-ton topside was assumed to be a 10,000-ton fabricated structure with 5,000 tons of accompaniments. The analysis had already demonstrated that a 10,000-ton topside could move on one barge on 150'x 16' channel. If indeed the movement was comprised of unassembled pieces, it could follow that the pieces could be shipped on two or more barges, rather than on just one. MVD/MVN specifically researched the split shipment (2 barge) possibility and developed no information to the contrary to preclude the 15,000-ton topside from moving on 2 barges, rather than one.

The entire team, to include the Sponsor, was engaged as the economics contractor developed information. The original array of scenarios was developed from information collected during the series of interviews as possible futures. In the detailed documentation provided, there were indications where some scenarios could be considered more likely than others. There were also affirmations that the Infield forecast presented as most probable was a reasonable forecast. Since the February 2006 report, two additional sets of topside forecasts have been introduced – Minerals Management Service (MMS) high and low. With no real support of the methodology, the April 2006 presented the midpoint values of the fully competitive and staging scenarios as most probable, and used it as the basis for a 20-foot channel plan recommendation.

At the April 2006 the CWRB voted not to release the final report due to a lack of supporting information for MVD/MVN's 20-foot channel plan recommendation. The CWRB directed MVD/MVN to expand its rationale through the following considerations:

- a. Identification of the underlying assumptions, including competition, topside forecasts, and modularization. This must include consideration of the potential for shipments using two barges.
- b. An evaluation of the data collected, including confidence levels, reasonability, and suitability.

- c. Identification of key areas of uncertainty and estimation of respective bounds.
- d. An assessment of the market share scenarios, including estimated probabilities of occurrence.
- e. An evaluation of the deep-water topside production forecast methodologies, including their comparability and reasonability
- f. An assessment of benefits not quantified, to include, but not limited to economic impact of offshore energy and transportation cost savings.

The CWRB did not recommend specific methodologies for the expanded rationale, but during discussions suggested statistical or heuristic methods such as expected value calculations, probability bounds analysis, and risk assessment. MVD/MVN may consider different methodologies, quantitative and qualitative, to use project data and scenario results in developing a recommendation; however, all items should inform the recommendation presented above. The CWRB directions were provided in a Director of Civil Works (DCW) memorandum dated May 8, 2006. A draft response was submitted by MVD/MVN to the OWPR on June 9, 2006. MVD/MVN requested a review prior to finalization. OWPR comments were provided on June 29, 2006. MVD/MVN submitted a revised version of the project recommendation rationale on July 18, 2006. The OWPR completed its assessment of the expanded rationale on August 2, 2006 (see enclosure 1). In consideration of the assessment provided by the OWPR, and briefed on August 25, 2006, the DCW determined that a 16-foot channel recommendation to include features expandable to a 20-foot channel was supportable on the basis of Congressionally-directed NED benefits. His recommendation was presented to the CWRB on September 11, 2006. The CWRB agreed with a vote of 5-0 to "initiate State and Agency with a draft Chief of Engineers report that indicates federal support for the 16-foot channel plan contingent upon the receipt of a more current Letter of Intent from the sponsor. This draft Chief of Engineers report should acknowledge: 1) the locally preferred plan is the 20-foot plan; 2) analysis includes use of Congressionally-directed benefits that are regional transfers from other ports; 3) includes certain costs (utility relocations, flood gate, etc) in the 16-foot that would have to be "undone" in order to develop a 20-foot plan at some point in the future; 4) additional studies would be required to support federal investment in a 20-foot plan in the future (e.g., authorization would be required); and 5) a scenario based analysis was used to support the decision making process.

An addendum to the April 2006 final feasibility report was prepared to incorporate the 16-foot channel recommendation, in lieu of a comprehensive revision of the feasibility report and appendices. Likewise, an addendum to the Environmental Impact Statement (EIS) was prepared with prior coordination with resource agencies. The State and Agency review, as well as final public and policy compliance reviews of the final feasibility report and environmental impact statement addendums occurred over the period 3 November 2006 through 4 December 2006.

## **PART II. REVIEW OF THE APRIL 2006 REPORT/EIS AND AFB MATERIALS.**

### **A. RESOLUTION OF ISSUES IDENTIFIED DURING REVIEW OF THE FEASIBILITY REPORT AND EIS.** The following section discusses the resolution of

concerns identified from review of the April 2006 and August 2005 feasibility reports and EIS. The resolution of policy concerns from review of the AFB material is shown in Section B.

## **1. REVIEW OF THE APRIL 2006 REPORT/EIS.**

a. Scenario Analysis and Plan Selection. The Policy Compliance Review Team is concerned that the report does not make a clear and convincing case that the 20-foot channel plan should be recommended as the plan with the greatest net benefits. The draft report presents results of scenario analysis for 3 different projections of deep-water top-sides (Infield, MMS high, and MMS low) and 10 assumptions for market share, for a total of 30 scenarios. Three channel depths were evaluated for each scenario. The results are expressed as present value of contracts, net benefits, and BCRs and are presented in the Main Report and the Economics Appendix. The thirty scenarios at three depths amount to ninety results that are presented in tabular form. However, there is no significant analysis of the scenarios presented for the public and decision makers to understand the rationale for plan selection. The only rationale stated for selecting the 20-foot channel depth is the observation that "...in the majority of the cases (71%) the optimized channel is 20-feet whenever the particular scenario band depicts a justified project." [Reference pages vii, 4-8, and 4-25 of the Main Report]. This 71% is apparently the result of observing that for 10 of the 14 scenarios that show at least one channel depth alternative having positive net benefits; 20-feet is the plan with highest net benefits. This ignores that 16 of the 30 scenarios do not have benefits that exceed costs, thus more than 50% of all scenarios do not demonstrate justification for any of the plans. Further, in considering all scenarios, only 33% show that the 20-foot depth channel has maximum net benefits [e.g. 10 out of 30]. If all scenarios are considered equally likely an average or mean value for each alternative could be analyzed and presented as shown in the following modification of Table 29 from the Economic Appendix and MR 4-4 of the Main Report. This shows that on average, net benefits for the 20-, 18-, and 16-foot plans are -176,000, -35,000, and 184,000, respectively. On average, the 16-foot plan has greater net benefits, and the 20-foot plan has negative net benefits. A more robust and meaningful analysis and presentation of the results of the scenario analysis is needed to support plan selection.

**Table 29. Average Annual Net Benefits (amended to include average)**  
(5.125 interest rate, thousands of dollars)

Scenario	Infield GOM Market		MMS High GOM Market		MMS Low GOM Market		Average
	No Increased Competition	Increased Competition	No Increased Competition	Increased Competition	No Increased Competition	Increased Competition	
<b>Competition</b>							
16 Foot Channel	\$3,083	\$1,408	\$11,487	\$8,835	\$2,783	\$1,143	\$4,790
18 Foot Channel	\$3,036	\$1,584	\$12,254	\$9,955	\$2,707	\$1,285	\$5,137
20 Foot Channel	\$4,692	\$1,956	\$16,158	\$11,826	\$4,283	\$1,604	\$6,753
<b>20 Percent EPC</b>							
16 Foot Channel	\$180	(\$1,160)	\$6,890	\$4,768	(\$60)	(\$1,372)	\$1,541
18 Foot Channel	\$356	(\$1,319)	\$8,010	\$5,358	\$82	(\$1,558)	\$1,822
20 Foot Channel	\$784	(\$1,450)	\$9,969	\$6,433	\$456	(\$1,731)	\$2,410
<b>50 Percent Integration</b>							
16 Foot Channel	(\$825)	(\$1,942)	\$5,298	\$3,530	(\$1,044)	(\$2,137)	\$480
18 Foot Channel	(\$1,431)	(\$2,771)	\$5,181	\$3,059	(\$1,667)	(\$2,979)	(\$101)
20 Foot Channel	(\$2,343)	(\$3,907)	\$5,018	\$2,543	(\$2,606)	(\$4,137)	(\$905)
<b>Staging</b>							
16 Foot Channel	(\$2,389)	(\$3,338)	\$2,823	\$1,320	(\$2,575)	(\$3,504)	(\$1,277)
18 Foot Channel	(\$2,995)	(\$4,167)	\$2,706	\$849	(\$3,198)	(\$4,346)	(\$1,859)
20 Foot Channel	(\$3,907)	(\$5,303)	\$2,543	\$332	(\$4,137)	(\$5,504)	(\$2,663)
<b>Contract Performance</b>							
16 Foot Channel	(\$5,348)	(\$5,996)	(\$1,863)	(\$2,888)	(\$5,473)	(\$6,107)	(\$4,613)
18 Foot Channel	(\$5,954)	(\$6,792)	(\$1,980)	(\$3,306)	(\$6,096)	(\$6,916)	(\$5,174)
20 Foot Channel	(\$7,313)	(\$8,318)	(\$2,850)	(\$4,442)	(\$7,472)	(\$8,456)	(\$6,475)
<b>Average</b>							
16 Foot Channel	(\$1,060)	(\$2,206)	\$4,927	\$3,113	(\$1,274)	(\$2,395)	<b>\$184</b>
18 Foot Channel	(\$1,398)	(\$2,693)	\$5,234	\$3,183	(\$1,634)	(\$2,903)	<b>(\$35)</b>
20 Foot Channel	(\$1,617)	(\$3,404)	\$6,168	\$3,338	(\$1,895)	(\$3,645)	<b>(\$176)</b>

MVN Response: The scenarios are both sequential and cumulative in the tables depicting them. Therefore, as you go down the various scenarios, the negative effects of the scenarios above it are already built-in to the scenarios below it. Because of this cumulative effect, the modified table provided does not work since you are then double, triple, etc counting the negative effects. In response to this comment, we have totally re-written the rationale behind the selected plan and have also used an averaging method. However, it basically averages the most optimistic scenario and the least optimistic one, instead of averaging all the scenarios together. The following section (paragraph 4.5.3 of the main report) depicts the averaging method utilized and is as follows (minus the tables):

#### 4.5.3 Rationale Analysis

Since there is uncertainty in predicting the size of the GOM topsides market, scenarios were used to represent a range of possible values. Three different projections were used to develop a range of benefits for the GOM market - Infield, MMS low and MMS high. There is also uncertainty with estimating the POI market share. Four scenarios were analyzed as a series of sequential development of market share determinants for the POI fabricators. These scenarios were cumulative, so as you move from one scenario to the

next, it also contains the negative effects of the scenarios above it. The scenario analysis results in seventy-two combinations of projected outcomes when considering both the GOM market and POI's resulting market share for topsides. Therefore, the analysis below provides a method of selecting a recommended plan by focusing on the mid-point of the various scenarios and using net benefits as the decision criteria.

For the GOM market, the MMS low and Infield forecasts are essentially the same, so they are treated as one data set for this analysis. An average between the two remaining data sets (MMS high and Infield) then provides a mid-point of the forecasts for the GOM market. See table MR 4-11 for the net benefit results of this mid-point for the GOM market.

For POI market share, a mid-point between the scenario ranges was used. First, the mid-point of the scenarios was computed. This data represents an average between the highest market share scenario (Competition) and the lowest market share scenario (Staging), the two extreme endpoints for the scenarios. The competition endpoint is the most optimistic case forecast used for the analyzed scenarios for the POI market share, and represents a 25% market share (with no increased competition). The Staging endpoint contains the cumulative negative effects of all the scenarios above it for the POI market share, based on how the scenarios were computed. Therefore, the POI market share reductions due to the 20 percent EPC and 50 percent Integration scenario's are already built-in when using the Staging scenario as an end point. This is the least optimistic case forecast for the analyzed scenarios for the POI market share and represents a 12.9% market share (with increased competition). See figure MR 4-2 for the net benefit results of this mid-point in the scenarios. Then the mid-point was taken between the No Increased Competition and Increased Competition data points. See table MR 4-12 for a depiction of the net benefits resulting from determining the mid-point of both the GOM market and the POI market share. In looking at the overall mid-point of the full range of scenarios, the results demonstrate that the 20-foot channel maximizes net benefits. The resulting net benefits for the 20-foot channel are \$3,547,000 and the resulting benefit to cost ratio is 1.2.

To further reinforce the selection of the 20-foot channel as the recommended plan, recent additional information suggests that the upper end of the forecast for the GOM market could be higher than depicted in the range of data used for this analysis. The MMS forecast were based on a price of crude oil of \$18 per barrel (low) and \$30 per barrel (high). However, as of March 13, 2006, the price for April delivery of sweet crude on the New York Mercantile Exchange was \$60.75 per barrel. That is more than twice the price used in MMS high forecasts.

Additionally, the Department of Energy issued a series of optimistic reports on Friday, March 10, 2006, about the potential for carbon-dioxide-based enhanced oil recovery methods (CO<sub>2</sub>-EOR) to lead to huge increases in U.S. crude oil production. One of these reports, "Undeveloped Domestic Oil Resources, The Foundation for Increasing Oil Production and a Viable Domestic Oil Industry, prepared for the U.S. Department of Energy by Advanced Resources International in February 2006, states, "Large volumes

of technically recoverable domestic oil resources remain undeveloped and are yet to be discovered, estimated at 400 billion barrels, from an undeveloped remaining oil in-place of over a trillion (1,124 billion) barrels. This large undeveloped oil resource base offers promise that a renaissance is possible for the domestic oil industry, greatly improving the nation's trade balance and energy security." This report further states that if one assumes that at \$40 per barrel for oil, 200 billion barrels (1/2) of this recoverable reserve becomes economic, the ultimate trade balance would be improved by \$8 trillion, state and local treasuries would gain \$700 billion in revenues, and the decline in domestic oil production would be reversed.

The current and expected future prices of crude oil and the CO2-EOR technologies described above provide additional evidence that the MMS high forecast is probably very conservative and therefore provides the most realistic projections of the three forecasts analyzed.

This information would suggest utilizing the MMS high GOM market forecast, as opposed to using an average between the MMS high and Infield forecasts. Therefore, the same method for computing the mid-point of the various scenarios was utilized using the MMS high GOM market forecast. See figure MR 4-3 for the net benefit results of the mid-point in the scenarios using the MMS high market forecast. Table MR 4-13 depicts the net benefit results of the mid-point taken between the No Increased Competition and Increased Competition data points. This table demonstrates the net benefits resulting from determining the mid-point of the POI market share when using the MMS high GOM market. Therefore, in looking at the mid-point of the full range of scenarios using the MMS high GOM market, the results also demonstrate that the 20-foot channel maximizes net benefits. The resulting net benefits for the 20-foot channel are \$7,724,000 and the resulting benefit to cost ratio is 1.5.

HQUSACE Analysis (May 2006). The concern is **not resolved**. The CWRB directed MVD/MVD to expand its rationale for selection of the 20-foot channel plan. The DCW memorandum to MVD dated ---5 May 2006--- which outlines the supporting information required is enclosed as **Attachment 2**.

HQUSACE Analysis (November 2006). The MVN/MVD response to CWRB direction and its OWPR assessment is included as **Attachment 3**. An In-Progress Review was conducted by the DCW on August 26, 2006, to discuss the OWPR assessment. At the suggestion of the CG, a teleconference was held on 29 September 2006 with representatives of Minerals Management Service to discuss their deepwater platform forecasts. A memorandum of the teleconference proceedings and participants is enclosed as **Attachment 4**. After consideration of the OWPR assessment, consultation with MMS, and significant coordination with the District, District, Port Authority, and Non-Federal Sponsor, the project recommendation was revised to the 16-foot channel plan by vote of the CWRB on 11 September 2006. The 16-foot channel plan recommendation was considered supportable as the NED plan based on the definition of NED benefits legislated in Section 6009 of the Emergency Appropriations Act of 2005. This concern is **resolved** per CWRB action.

b. ASA Exception for Recommending Other than NED Plan. As noted in the comment above, even considering the Congressionally mandated measurement of NED benefits and the interpretation thereof, it is not at all clear that the tentatively recommended 20-foot depth plan is the “NED Plan” or that it is a categorical exception as being smaller than the NED Plan. In addition, the report appropriately states there are no NED benefits as prescribed by the P&G. As such, in accordance with paragraph E-3.b.1 of ER 1105-2-100 and EC 1165-2-409, the Corps may need to obtain an exception from ASA (CW) to recommend a plan other than the NED Plan.

MVN Response: A scenario analysis was performed for this study. Probabilities were not assigned to each scenario. Therefore, a most probable future and an NED plan were not identified. Consequently, it is the districts position that an exception from ASA (CW) to recommend a plan other than the NED plan is not appropriate or required.

HQUSACE Analysis (May 2006). The concern is **not resolved**. The MVD analysis does not support a 20-foot channel plan recommendation. The CWRB, through the DCW, directed MVD to develop additional information to support its recommendation (see **Attachment 1**).

HQUSACE Analysis (November 2006). This concern is **resolved** per CWRB action (see response to item **A.1.a.** above). The 16-foot channel is the recommended plan.

c. No NED Benefits in Accordance with the P&G. The Main Report states only summarily on page 5-2 that the proposed project would accrue no NED benefits as prescribed by the P&G. This information needs to be made more prominent in the report and stated clearly in the Executive Summary so that the information is fully revealed to potentially interested parties, stakeholders, and decision makers.

MVN Response: The following paragraph has been re-written in the Report Summary section (page xi) of the report:

#### EQUIVALENT ANNUAL COSTS AND BENEFITS

Table S-3 displays the recommended plan’s average annual benefits and costs. None of the Deepwater Fabrication benefits listed in the table are in accordance with the P&G, since they represent work being displaced from other domestic yards. However, these Deepwater Fabrication benefits have been measured in accordance with Congressionally mandated language that directed inclusion of these benefits in the NED calculation. Note that transportation cost savings are not included in the benefits for Port activity that is unrelated to topside fabrication since those benefits could not be identified to a reasonable level of confidence.

Also, page 5-2 of the report has been re-written (paragraph 5.1.1) as follows:

##### 5.1.1 Equivalent Annual Costs and Benefits

(i) 5.1.1.1 NED Benefits Measured In  
Accordance With P&G

As discussed previously, the methodology used to measure benefits for this analysis is based on legislative language included in Public Law 109-13, Emergency Supplemental Appropriations Act for Defense, the Global War on Terror, and Tsunami Relief, 2005.

Under the legislation, the full monetary value of any contract awarded to the Port of Iberia for the deepwater fabrication of offshore exploration and production equipment is included in the calculation of benefits. Furthermore, any benefit using Deepwater Fabrication contracts is to be counted as a benefit for project justification regardless if work was displaced from foreign or domestic yards.

This legislation has implications for the POI analysis because under NED benefits measured in accordance with P&G, explained in ER 1100-2-100, the Congressionally mandated benefits using Deepwater Fabrication contracts described in this analysis would represent regional economic benefits (RED) and not NED benefits. This is because the contracts that fabricators from the POI are expected to win, with a deeper channel, would be at the expense of other domestic fabricators. Consequently, even though the POI and surrounding areas would benefit economically from increased activity, from a national perspective there is no net increase in overall economic development.

Table MR 5-3 displays how overall project justification is affected by measuring benefits in accordance with Congressionally mandated language. Table MR 5-3 displays the composition of total average annual costs and average annual benefits for the 20-foot channel depth and for each of the market share scenarios. The estimates, in 2004 prices, were calculated using an interest rate of 5.125 percent, a 50-year project life and a base year of 2012. Also displayed are the net benefits, representing the difference between average annual benefits and average annual costs, and the resulting benefit to cost ratio (BCR) for the 20-foot channel and for each of the market share scenarios.

HQUSACE Analysis. The concern is **resolved** with inclusion of the additional clarifying information on NED benefits as applied in this analysis in the Main Report.

d. Coordination. (Volume 6, Appendix G: Summary of Public Comments and Review).

(1). Letter 1 from US Department of Commerce- NOAA, letter 3 from Louisiana DNR, letter 13 from Louisiana DNR Office of Coastal Restoration and Management. All three of these letters raise express concerns regarding the Corps interpretation of Congressional language regarding measurement of NED benefits. Basically each letter states and losses to other US ports and businesses should be accounted for in determining benefits to the Nation. The district response to these letters is not very informative. In addition, the response to letter 3 states that, “The interpretation of the congressional language originated in USACE Headquarters.” For the review team’s understanding, please further explain this statement. Further, this

statement should be eliminated from the response, as it is not relevant as to the origin of the interpretation. In the detailed comments from US EPA, letter 16, likewise raises concerns about competition and over capacity in area ports. Better responses should be prepared for all of these letters. This appears to be a matter of potential controversy that needs to be identified for decision makers.

MVN Response: 1-1, 3-7, 16-8 As a result of the congressional language, the Corps of Engineers was directed to measure benefits, resulting from improved channel conditions, as the full value of the contracts that a port is expected to win regardless of whether the fabricated component would have otherwise been constructed in a foreign location or in another domestic location. This interpretation of the congressional language by New Orleans district has been approved throughout the Corps of Engineers chain of command.

HQUSACE Analysis. The concern is **resolved**.

(2) Letter 3, from Louisiana DNR. The responses to items 3-5 and 3-6 are not particularly helpful, with regard to the need to comply with Louisiana Coastal use Guideline 4.2. Both these comments from the DNR concern placement of dredged material in freshwater wetlands, and whether these impacts could be avoided. It is recommended that the District expand the responses to these two items to be more descriptive, along the lines of the District response to item 3-8. The response to 3-8 says that the plan disposal plan was formulated to use the dredged material beneficially where practicable. For items 3-5 and 3-6, the District should briefly describe the disposal options considered for the Freshwater Bayou area, and explain why the proposed disposal site is the most practicable to pursue, and why it is not possible to avoid the wetlands in question.

MVN Response: 3-5 An interagency team tentatively selected an upland disposal area in the “Commercial Canal” area. The original plan was to place the material along the dredged material embankment because the landowner felt that the bank line was eroding. Engineering did not have time due to shortened schedule to survey the area. USFWS had concerns with placement on the embankment because the area had become prime habitat for black bear that used the area as a corridor between Weeks Island and Avery Island. A second placement option was then developed for wetland creation in Weeks bay. This alternative had structural issues because of poor sediments in the bay and also had environmental and economic issues since the area is public oyster seed ground. Due to limited time due to shortened schedule a two upland disposal area was proposed for this area. The one on the east side of the channel was eliminated, because it was tidally influenced. The one on the west side is all ready impounded. Compensatory mitigation for this area was not required for the project due to the fact that the project would create a large amount of fresh marsh in other areas from the beneficial disposal of dredged material. The Corps will continue to coordinate with LDNR and the rest of the interagency team in the next phase of the project to resolve any dredge material disposal issues, which may arise.

3-6 The upland disposal areas in the “Freshwater bayou” area was tentatively selected to by an interagency team. This alternative would provide a way to protect integrity of the bypass lock. These areas had been previously deposited on and where considered perched wetlands by the interagency team. Compensatory mitigation for this area was not required for the project due to the fact that the project would create a large amount of fresh marsh in other areas from the beneficial disposal of dredged material. The Corps will continue to coordinate with LDNR and the rest of the interagency team in the next phase of the project to resolve any dredge material disposal issues, which may arise.

HQUSACE Analysis. The concern is **resolved**.

(3). Letter 3 from Louisiana DNR, letter 5 from Freyou, Moore and Associates, and letter 6 from Cousins & Cousins. All three of these letters discuss the opposition to, or potential unavailability, of the proposed 343-acre dredged material disposal site along Freshwater Bayou. This issue is closely tied to the loss of wetlands discussed in point #1, above. The District needs to discuss the potential for obtaining these lands in light of the expressed oppositions, and present any back-up plan that could be implemented should the landowners of the site in question refuse to allow dredged material disposal on their properties. Does the District plan to condemn the property? Is an upland disposal alternative site available and practicable? Is open water disposal along other portions of the navigation channel practicable?

MVN Response: An interagency team tentatively selected an upland disposal area in the “Commercial Canal” area. The Corps will continue to coordinate with LDNR and the rest of the interagency team in the next phase of the project to resolve any dredge material disposal issues, which may arise. The Louisiana Department of Transportation and Development (LaDOTD) will be the non-Federal sponsor for the construction of the project; however, the Port of Iberia (Port) was the non-Federal sponsor for this study. LaDOTD will be responsible for obtaining the required rights-of-way for this project, and that agency will be expected to do whatever is necessary to comply with this responsibility, including the condemnation of required rights-of-way if that is what is required. LaDOTD does have “quick-take” authority, and should be able to support the schedule for this project. During the preparation of the report, Mr. Roy Pontiff (the director of the Port) and Mr. Oscar Pena (the Port’s contractor) were asked about any potential right-of-way acquisition issues, and they did not anticipate any difficulty in obtaining the required rights-of-way.

HQUSACE Analysis. The concern is **resolved**.

(4) Letter 7 from Abbeville Harbor & Terminal District. The Abbeville Harbor & Terminal District (AHTD) operates the bypass channel at the Freshwater Bayou Canal. The October 5, 2005 letter from the Executive Director withdrew support for the proposed project. The AGMAC letter of October 26, 2005 indicated that a reply to the October 5, 2005 letter has not been received. The majority of the proposed AGMAC Channel from the Port of Iberia to the Gulf of Mexico will be located outside of the Port of Iberia and located in Vermillion Parish. The report did not include sufficient

information that support from this critical link would be forthcoming. Since the limits of the proposed project extends beyond the Port of Iberia into Vermilion Parish the Louisiana Department of Transportation and Development (LADOTD) agreed to act as non-Federal sponsor for project construction. Appendix G page 52 Corps response to letter noted that MVN is working with Vermillion Parish on an independent hurricane protection project. On page 61 of Appendix G the November 15, 2005 letter from the Vermillion Parish Police Jury pointed out continued firm opposition to the project unless a levee at category 5 protection is provided. The Corps response noted the letter. The report needs to indicate the status of both AHTD and Vermillion Police Jury support. Also LADOTD support needs to be determined in light of the AHTD and Vermillion Parish Police Jury letters withdrawing support.

MVN Response: LADOTD has submitted letters of intent stating their intention to serve as the sponsor for the Port of Iberia, LA project, see exhibit 2. CEMVN has received funds to conduct an expedited reconnaissance study, estimated at 6 months, for areas recently affected by hurricanes including Southwest Coastal Louisiana. The project area includes the parishes of Cameron, Calcasieu, and Vermilion. Several alternatives would be formulated during the reconnaissance study with the intent of providing a full range of protection for developments against hurricane surge and wave action. This study would also address the feasibility to construct 12-foot armored levee along the Gulf Intracoastal Waterway. The reconnaissance study will be completed in coordination with the comprehensive assessment for the South Louisiana Hurricane Protection, Louisiana (SLHP) project. It is envisioned that the recommendations from the reconnaissance study will be incorporated in the SLHP Project for further evaluation and implementation.

HQUSACE Analysis. The concern is **resolved**.

(5) Letter 9 from Louisiana DEP. District responses to comments are basically "comment noted." It is recommended that the District respond to the specific issues identified in the DEP comments. For example, with regard to Comment 1, the response could give a status update on the coordination process for LA Pollutant Discharge Elimination System. Similarly, the response to Comment 2 could also provide a status update on the storm water permit process, while response to Comment 3 could state the types of measures that would be used to control non-point sources of pollution, and so on and so forth. In any case, specific answers are preferable to the "comment noted" type of response given.

MVN Response: 9-1 The subject project is presently in feasibility stage. Project alternatives that were recommended in the subject EIS were developed taking into account the guidelines of the Louisiana Pollutant Discharge Elimination System. If and when a Record of Decision is signed, during the project implementation stage, specifications will be formulated that comply fully with the LPDES requirements and a request for permittance under LAR10000 will be made.

9-3 Comment noted. Plans and specs will include standard operation principals on preventing non-point pollutions.

9-4 A Section 404 (b)(1) evaluation was performed and can be found in section 5 of the Appendix B of the main report. WQC from LDEQ has been received see letter 8.

HQUSACE Analysis. The concern is **resolved**.

(6) Letter 13 from Louisiana DNR/ Office of Coastal Restoration and Management. Comment 13-5 of this letter also raises the issue of wetland avoidance already discussed in item #1, above. The existing response of "comment noted" should be expanded.

MVN Response: 13-4 An interagency team tentatively selected an upland disposal area in the "Commercial Canal" area. The original plan was to place the material along the dredged material embankment because the landowner felt that the bank line was eroding. Engineering did not have time due to shortened schedule to survey the area. USFWS had concerns with placement on the embankment because the area had become prime habitat for black bear that used the area as a corridor between Weeks Island and Avery Island. A second placement option was then developed for wetland creation in Weeks bay. This alternative had structural issues because of poor sediments in the bay and also had environmental and economic issues since the area is public oyster seed ground. Due to limited time due to shortened schedule a two upland disposal area was proposed for this area. The one on the east side of the channel was eliminated, because it was tidally influenced. The one on the west side is all ready impounded. Compensatory mitigation for this area was not required for the project due to the fact that the project would create a large amount of fresh marsh in other areas from the beneficial disposal of dredged material. The Corps will continue to coordinate with LDNR and the rest of the interagency team in the next phase of the project to resolve any dredge material disposal issues, which may arise.

13-5 The upland disposal areas in the "Freshwater bayou" area was tentatively selected by an interagency team. This alternative would provide a way to protect integrity of the bypass lock. These areas had been previously deposited on and were considered perched wetlands by the interagency team. Compensatory mitigation for this area was not required for the project due to the fact that the project would create a large amount of fresh marsh in other areas from the beneficial disposal of dredged material. The Corps will continue to coordinate with LDNR and the rest of the interagency team in the next phase of the project to resolve any dredge material disposal issues, which may arise.

HQUSACE Analysis. The concern is **resolved**.

## ATTACHMENT 1

### PORT OF IBERIA NAVIGATION FEASIBILITY REPORT/EIS COMMENTS/RESPONSES FROM PRIOR REVIEWS

**NOTE:** The economic analysis in the April 2006 feasibility report reflected a significant change from the prior methodology, in response to the policy and independent technical review concerns of the August 2005 feasibility report which were highlighted at the October 2005 CWRB. At that meeting, the CWRB directed the District to resolve the outstanding concerns through coordination with the vertical team. Accordingly, some of the comments noted below have been superseded by the revised analysis and are no longer relevant.

#### 2. REVIEW OF THE AUGUST 2005 FEASIBILITY REPORT/EIS.

##### A. Economic Analysis.

(1) Topside Weight and Channel Depth. Reference is made to page 108 of the Economics Appendix. “The 16-foot channel will accommodate topsides of 10,000 tons or less, 18-feet will accommodate 15,000 tons or less and the 20-foot channel will accommodate 20,000 tons or less.” This evaluation contradicts the district response to evaluation of Technical Review comment Id 962332, wherein it is stated. “A 400-foot x 100 x 20-foot deck barge is currently the largest, typical carrier of topsides to the Gulf operating at POI. At its fully loaded draft, it has a carrying capacity of 12,500 tons and draws 14-feet, 3 inches.” This information is also on the McDonough Marine web site. This barge could be used with the authorized depth of 12-feet, 3-feet of advance maintenance and 1 foot of overdepth. The sum of these depth factors is 16-feet which would provide two feet of safety clearance. Report information and ITR responses also indicate that Houma is taking full advantage of advance maintenance and overdepth dredging. ER 1105-2-100 page E-51 makes clear that actual practice is the starting point for an analysis. “The starting point in analysis is to develop an accurate picture of the existing conditions. Accurate information on operating practices is particularly important; without this, reasonable without-project and with-project conditions, and hence economic analysis, is not possible. Entering and departing vessel drafts in economic analyses shall reflect actual practices. Adherence to Corps’ clearance standards shall not be assumed.” Formulate the with-project benefits on the basis of actual practice and carrying capacity of the barges used to transport the topsides. Based upon without project actual practice of using the 400-foot long, 100-foot wide and 14-foot draft barge with channel advance maintenance and overdepth dredging, it appears that deepening benefits may not be applied to topsides of 12,500 tons or less.

**MVN Response:** Advanced maintenance is dependent upon timing and budget. Only the authorized depth of a channel can be relied upon for planning purposes. The referenced statement concerning barge dimensions will not appear in the final report

because the weight-depth relationship is misleading. The design vessel for this project is a deck barge measuring 400-foot by 100-foot with a useful draft of 20-feet. Also because topsides are custom made, no attempt was made to forecast the weight of the structure. The size of the structure is dependent on where the rig will be located, the depth of the water and the type of rig. Several barges meeting these dimensions are currently available as shown in the following table:

VESSEL	VESSEL_NAME	NRT	LENGTH	BIRDT	CAP TONS	LOAD	LIGHT	STATE	BASE1
						DRAFT	DRAFT		
20450	MARMAC	4422	300	100	11318	18	2	LA	MORGAN CITY
4834	MWB	2415	400	104.8	16000	19	4	LA	MORGAN CITY
29014	WESTERN CARRIER	1041	300	84	10000	19	3	WA	SEATTLE
71999	CMC	7815	396	100.1	16400	20	4	FL	JACKSONVILLE
72000	CMC	7815	396	100.1	16400	20	4	FL	JACKSONVILLE
72000	CMC	2079	400	100.1	16400	20	4	FL	JACKSONVILLE
22882	BERING TRADER	5372	324	94	11500	21	6	WA	SEATTLE
73876	BARGE	7970	430	80	12500	22	8	WA	SEATTLE
62076	OCEANIC	11216	450	150	15000	22	6	LA	MORGAN CITY
6052	DXE	9815	430	80	18000	27	5	LA	NEW ORLEANS
62078	INTERMAC	26635	650.2	170.2	44800	29	7	LA	MORGAN CITY

Source: IWR Database

HQUSACE Analysis. The concern is **resolved**. Additional supporting information on the availability of barges measuring 400'x100'x25' with a carrying capacity of 18,000 tons at 20' was provided to the review team.

(2) Topside Contract Depth Requirements. The authorized depth at Houma is 15-feet. The dredging is to 15-feet plus 3-feet of advance maintenance and an additional one foot of overdepth for a total of 19-feet. Gulf Island at Houma is considered a major player. Therefore, if Iberia had an authorized depth of 15-feet with advance maintenance and overdepth would the Port of Iberia, likewise be considered a major player? Also, the key assumption of the industry requirement has not been substantiated with documentation from the industry. In fact, ITR comment Id 957058 pointed out "the report documentation included interviews with several fabricators that didn't identify channel depth as a major factor (e.g., page 20 Unifab, page 22 Gulf Island Fabrication, and page 80 McDermott, Technip and Gulf Island." A similar comment concerning the need for a 20-foot depth, in order to be considered for deepwater topside contracts has not been resolved in the ITR documentation. (Id 957058). Additional industry documentation on minimum channel depth requirements for topside contracts is needed.

MVN Response: Based on recent interviews with several industry representatives, depth is extremely important to their competitive position. All of the CONUS ports referenced in this study have at one time or another, requested that the Corps deepen their access channels to 20-feet or greater. As shown in response to 2.A.(1), the minimum channel depth requirements are based on the capacity and draft of the vessels that are transporting the finished product.

HQUSACE Analysis (October 2005). The concern is **not resolved**. Following the October 2005 CWRB meeting, the District was directed by the CWRB to revise the economic analysis to resolve outstanding ITR and policy review concerns.

HQUSACE Analysis (May 2006). The concern is **resolved** with subsequent additional analysis.

(3) The market analysis in the Economics Appendix did not provide any information on the weight of the topsides to be built under the with project conditions. The incremental feasibility of the proposed deepening is dependent on the number of topsides that can use a deepened channel. For example if nearly all of the topsides to be built in the with project condition are under 10,000 tons the extra cost of deepening to 20-feet may not be justified even under Section 6009 of PL 109-13. A distribution of topsides by weight to be built under the with-project and without-project conditions is needed to justify the incremental deepening expenditures. While such information may be proprietary, it needs to be made available to the project delivery team and the policy reviewers to ensure appropriateness of benefit estimates

MVN Response: Although the weight of topsides is one consideration in the industry bidding process, it is not the primary consideration. In other words, the cost of a rig is not totally dependent upon the final weight of the rig. The cost is based upon the rig purpose, location, material quality, material quantity, specialized equipment required, living quarters, storage capacity, and other non-weight related factors. It is more appropriate to evaluate the incremental costs, increased fabrication benefits and transportation benefits for each alternative considered. The results of that incremental analysis are provided in Table MR 4-4.

HQUSACE Analysis. The concern is **not resolved**. Following the October 2005 CWRB meeting, the District was directed by the CWRB to revise the economic analysis to resolve outstanding ITR and policy review concerns.

HQUSACE Analysis (May 2006). The concern is **resolved** with subsequent additional analysis.

(4) Reference is made to pages 27 and 28 of the Economic Appendix. Table 13 provides information on Topside weight for Intermediate Depth GOM Platforms. Five firms at Iberia were shown on this table for constructing topsides. Table 14 provides information on Topside weight for Deepwater GOM Platforms. One firm at Iberia was shown on this table. Houma and Morgan City were shown as building several topsides on both tables. Information is needed on the sailing draft of the barges carrying topsides built at Louisiana and Texas ports. This would establish a distribution of topside weight and sailing draft.

MVN Response: Refer to 2.A.(1).

HQUSACE Analysis (October 2005). The concern is **not resolved**. Following the October 2005 CWRB meeting, the District was directed by the CWRB to revise the economic analysis to resolve outstanding ITR and policy review concerns.

HQUSACE Analysis (May 2006). The concern is **resolved** with subsequent additional analysis.

(5) Incremental Analysis. Incremental analysis is utilized for determining the optimal plan for Federal investment. The report provides detailed information on costs of alternative channel sizes. However, only summary information on incremental benefits is provided on page MR 4-6 on Table MR 4-4. Also this summary information was only provided for benefits evaluated under Section 6009 of the Fiscal Year 2005 Second Supplemental Appropriations Bill. In addition, incremental analysis should be part of the evaluation of navigation improvements based on National Economic Development (NED) benefits according to Principles and Guidelines. Incremental analysis for navigation studies requires specific types of information. A similar comment on matching the vessel fleet with cargo characteristics has not been resolved in the ITR documentation (Id 956985). The district needs to identify shipping characteristics of commodities benefiting from reduced transportation costs such as cubic dimensions and weight. Also, match up the vessel fleet length, width, design draft, light draft, tons per inch immersion with the topside modules being shipped in the with-project and without-project condition.

MVN Response: Refer to 2.A.(1) and (3). The commodities in this navigation study are not subject to the same criteria as a commodity such as rice, corn or oil, which can be optimized for transportation savings, based on tons per inch immersion. In the section on transportation cost analysis no incremental analysis was performed because the project was not justified on transportation cost savings alone (NED benefits.)

HQUSACE Analysis (October 2005). The concern is **not resolved**. Following the October 2005 CWRB meeting, the District was directed by the CWRB to revise the economic analysis to resolve outstanding ITR and policy review concerns.

HQUSACE Analysis (May 2006). The concern is **resolved** with subsequent additional analysis.

B. Environmental Documentation. The review of the August 2005 draft feasibility report and environmental impact statement resulted in the following comments.

(1) The HQUSACE evaluation of Chapter 4 of the DEIS, Comparative Impacts of Alternatives, and related areas in the feasibility report lead us to the conclusion that compensatory mitigation for the project impacts, as proposed, is not warranted. As summarized in Table DEIS 4-2, the tentatively selected plan would result in dramatic increases to both vegetated wetlands habitat acreages and average annual habitat units (AAHUs), in comparison to the No Action alternative (i.e., the future without-project

condition). The shallow open water acreage in the study area would also increase, with significant increase in AAHUs. Also, it is noted that the gains in habitat value come at the expense of the “Other” category, a habitat category that is not classified or described in the DEIS or feasibility report.

- Fresh marsh would increase 280%, from 46 acres to 131 acres. AAHUs would increase from 174 to 281, a 60% increase
- Intermediate marsh would increase over 35-fold, from 74 acres to 2618 acres. AAHUs would increase by 4127, a 170% increase over the FWO condition
- Brackish marsh would increase from zero acres to 445 acres, resulting in 976 new AAHUs.
- Shallow open water would increase from 383 to 1324 acres, resulting in a 70% gain in AAHUs.

Considering the great increase in overall habitat values, it is difficult to conceive of a reason that would justify mitigating for 343 acres of impounded freshwater marsh at the proposed dredged material disposal site adjacent to the Commercial Canal. The proposed mitigation measures for the dredged material disposal site call for the creation of 98 acres of intermediate marsh, 100 acres of impounded fresh marsh, and 31 acres of un-impounded fresh marsh. Given that the project would create 4127 acres of intermediate marsh and 85 acres fresh marsh, HQUSACE has determined that the loss of marsh at the disposal site does not appear to be significant compared to the larger gains within the study, and therefore, does not require mitigation. Guidance on significance determinations is found in section C-3 (d) 4 of ER 1105-2-100.

MVN Response: Concur with HQUSACE assessment. The category “Other” is defined as channel bottom and deeper bay bottom.

HQUSACE Analysis. The concern is **resolved** with changes incorporated into the final EIS.

(2) No cost-effectiveness/incremental cost analysis has been completed for the proposed mitigation plan, as required by ER 1105-2-100, section C-3 (e) 8.

MVN Response: Refer to 2.B.(1), which indicates that mitigation is not required.

HQUSACE Analysis. The concern is **resolved**.

(3) HQUSACE recommends that the feasibility report include a checklist of compliance with Federal laws, regulations and Executive Orders, such as section 404 and 401 of the Clean Water Act, Essential Fish Habitat, Endangered Species Act, Clean Air Act, Environmental Justice E.O, National Historic Policy Act, etc. Much of this information is already included in the DEIS. Summarizing this information in a table in the executive summary of the report would be helpful.

MVN Response: Concur, changes incorporated into final.

HQUSACE Analysis. The concern is **resolved** with changes incorporated into the final EIS.

(4) Editorial comment, page DEIS S-5. HQUSACE recommends that the first two sentences of the third paragraph, or even the entire paragraph, be deleted or revised. Stating that deepening a constructed navigation channel does not generally constitute ecosystem restoration adds little value to the discussion of the project. Also, the fact that the Corps asked other resource agencies to verify this idea speaks poorly of the Corps' extensive experience in both navigation dredging and ecosystem restoration.

MVN Response: Concur, changes incorporated into final.

HQUSACE Analysis. The concern is **resolved** with changes incorporated into the final EIS.

(5) NEPA confused with 404(b)1 Guidelines, DEIS page S-5. The last paragraph on this page contains the following statement; "As a result, in order to avoid and minimize impacts to wetlands as defined by the National Environmental Policy Act (NEPA), dredge material disposal methodologies were formulated with the assistance of Federal and state resource agencies in an effort to identify the least environmentally damaging disposal plan." Neither avoidance and minimization or least environmentally-damaging plan are discussed in the National Environmental Policy Act, however, these concepts are central tenets of the Clean Water Act Section 404(b)1 Guidelines (40 CFR Part 230, Subpart A).

MVN Response: The phrase "least cost environmentally acceptable plan" is used throughout the DEIS in lieu of "least environmentally damaging plan". In addition, avoidance and minimization are also discussed in the DEIS.

HQUSACE Analysis. The concern is **resolved**.

D. The M-CACES cost estimate was reviewed and following comments are provided:

(1) The M-CACES estimate (provided through the MVS ftp site) did not include escalation cost. The project costs could be understated due to the omission of escalation. The estimate should be revised to include escalation cost as required in ER 1110-2-1302. Requirements and guidance on escalation is prescribed in paragraph 13 and Appendix C (par. 3) of the ER.

MVN Response: Escalation costs will be added to the final report in the Economic Appendix, Ability-to-Pay assessment in lieu of the M-CACES.

HQUSACE Analysis. The concern is **resolved** with changes incorporated into the final report.

(2) A project narrative describing the basis and assumptions used in the development of the estimate is missing. The M-CACES estimate did not include a narrative to support the development of costs, assumptions, construction duration, and contingency development. Without a narrative the reviewer has difficulty understanding the basis and assumptions used in the development of the estimate. Also, the narrative would provide the district with a historical basis as the project proceeds and would bring it into conformance with ER 1110-2-1302. A narrative should be included in the M-CACES estimate.

MVN Response: Refer to section C8 of the Engineering Appendix for a description of the M-CACES estimate and all assumptions.

HQUSACE Analysis. The concern is **resolved**.

(3) Reference is made to Tables S-1 and MR 5-1. Based on the cost information from the M-CACES estimate it appears the construction cost did not include escalation whereas the costs for PED & Construction Management included escalation. The total project cost could be understated due to this discrepancy. The costs presented on these tables should be verified and corrected based on the revised M-CACES estimate.

MVN Response: Refer to 2.C.(1). The PED and construction costs in the referenced tables summarize the total project costs for the economic analysis. The M-CACES estimate does not include costs for features such as removals or bulkheads based on the division of responsibilities.

HQUSACE Analysis. The concern is **resolved**.

## **UNRESOLVED PREVIOUS CONCERNS. (23 August 2005)**

### **3. SPECIFIC COMMENTS MAIN REPORT. (23 August 2005)**

C. Navigation Base Plan for Disposal. Comment and Action Requirements in paragraph 3.B. of the AFB-PGM addressed the issue of least cost, environmentally acceptable disposal of dredged material (e.g. the navigation base plan for disposal). The district's preliminary response does not provide the requested information to resolve this outstanding concern. As discussed at the 2 August 2005 vertical team meeting, the district needs to present information that clearly shows that alternative, environmentally acceptable disposal plans, such as ocean disposal, are more costly than the plan selected. If alternative means of disposal are less costly, then 35% non-Federal cost sharing for the incremental costs and 100% non-Federal costs for OMRR&R for the beneficial use of dredged material would be applicable.

MVN Response. Concur, to the degree possible. It appears that ocean disposal, however, may not be an environmentally acceptable disposal plan. Need to clarify the process for eliminating the alternatives as non-acceptable as opposed to selection of the chosen plan as beneficial use.

HQUSACE Analysis. The concern is **not resolved**. The response appears to indicate that the comparative costs of ocean disposal have not been determined. This response contradicts the response in 5C that the comparative costs of ocean disposal have been determined.

Action Taken: A comparative cost of ocean disposal was completed and is included in Annex 2 of Appendix C. It was estimated that ocean disposal costs \$8.4 million more than the tentatively selected plan. In addition, ocean disposal is not consistent with the State of Louisiana's Coastal Zone Management (CZM) Plan.

HQUSACE Analysis (13 October 2005): Annex 2 of Appendix C shows the comparative costs of Disposal Alternative No. 4 – Deepwater Ocean Disposal. During the construction period the costs for the selected disposal alternative amount to \$203 million while the ocean disposal costs during the construction period amount to \$211 million for a difference of \$8.4 million. However, the average annual costs for both the construction period (5 Years) and the 50 year evaluation period amount to \$16 million for the selected alternative and \$19.4 million for the ocean disposal alternative. Ocean disposal would cost \$3.4 million over the entire 55 year life cycle made up of a 5 year construction and a 50 year evaluation period. Also note an approved deepwater Ocean Dredge Material Disposal Site (ODMDS) does not currently exist near the project. A lengthy process to identify and obtain approval from the Environmental Protection Agency (EPA) for a new ODMDS would be required prior to dredging activities beginning. It is estimated this process could take up to three (3) years and cost \$1 million. The information in Annex 2 of Appendix C **has resolved the concern**.

J. Associated Costs Berth Area Dredging. The only associated costs presented in the report are for new bulkheads to accommodate the increased channel depths in the harbor areas. The district needs to address the potential need for berth area dredging. Some berthing areas may need to be deepened and maintained on a regular basis such as at the docks where the transportation cost benefits are claimed. Other locations, such as where large top-side platforms are loaded on to barges for transport to the Gulf, may only need to be dredged when actual loading and transport occur. This could have potential effect not only on initial project costs, but also for future OMRR&R and dredge material disposals areas such as the upland confined disposal area proposed near the POI. It could likewise have cost-sharing implications. Provide a full description on all associated costs need to achieve project benefits.

MVN Response. Attention should be given to Annex 4 of the Engineering Appendix (appendix C). In this Annex, the berthing areas for most of the businesses in the Port are discussed. During the course of the study, it was determined that businesses already had enough water at their facility to offload equipment, or could adjust their offloading to fully utilize the water depth currently available. Thus, dredging of berthing areas was considered unnecessary.

HQUSACE Analysis. The only associated costs presented in the above referenced Annex 4 are for new bulkheads to accommodate the increased channel depths in the harbor areas. The district needs to address the potential need for berth area dredging. The concern is **not resolved**.

Action Taken: If required, dredging of berthing areas is anticipated to be minimal based on discussions with POI fabricators. In the PED phase, dredging of berthing areas will be evaluated and this assumption verified.

HQUSACE Analysis (13 October 2005): There is potential for significant berth dredging costs to be overlooked until the PED phase. Information is needed on the current depth and proposed depth for each of the firms benefiting from the project deepening from 12-feet to 20-feet. An estimate of the quantities needed to be dredged and per cubic yard cost based on past experience is needed to reduce the risk of a significant cost under estimation. Also, an estimate for the benefiting firms is needed of their associated berthing dredging costs and potential benefits to determine their likely participation in the proposed project. If the firms berth dredging cost is greater than potential benefits, participation by that firm is unlikely. **The concern is not resolved.**

MVN Response: Additional dredging of berthing areas is not required based on information gathered during feasibility by the sponsors A-E contractor and provided previously to HQUSACE. Refer to C3.2.5.2 sub-paragraph (b)(2) for bulkhead design, which was evaluated at -23 foot bottom channel elevation.

HQUSACE Analysis. The concern is **resolved**.

K. O&M Savings for Existing Channels. Table 4-2 on page 52 of the preliminary draft main report shows annual O&M savings of \$1,067,000 for operations of the existing channels and the by-pass channel at the Freshwater Bayou lock structure. These O&M savings should be counted on the benefit side of the BCR equation, and the entire OMRR&R costs (\$3,677,000) of the new channel, by-pass facility and environmental features and monitoring should be shown on the cost side for the new project. In addition, the district needs to ensure that the O&M costs for the new by-pass channel and gates sufficiently cover the needs of any shallow water oil and gas exploration/production contracts and shipments.

MVN Response. Concur. We have revised the table as follows:

**Table 4 - 2**  
**Summary of Operation and Maintenance (O&M) Costs of the Tentatively**  
**Selected Plan and Avoided Existing O&M Costs (Benefits)**  
**(2004 Price Levels)**

Annual O&M, 20 X 150-Foot Channel	\$ 3,273,000
Annual O&M, Freshwater Bayou By-Pass Floodgates	\$ 299,000
Annual O&M, Environmental Features and Monitoring	\$ 105,000

<b>TOTAL ANNUAL O&amp;M COSTS</b>	<b>\$ 3,677,000</b>
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Avoided Annual O&M, 12 X 125-Foot Channel	\$ 947,000
Avoided Annual O&M, Freshwater Bayou By-Pass Floodgates	\$ 120,000
<b>TOTAL ANNUAL AVOIDED O&amp;M COSTS</b>	<b>\$ 1,067,000</b>

HQUSACE Analysis. The above tabular response will resolve the concern when this information is fully incorporated into the B/C analysis.

Action Taken: The revised Table 4-2 was incorporated into the main report and Appendices.

HQUSACE Analysis (13 October 2005): Table MR 5 -3 shows a net cost of \$2,628,000 in O&M costs. Use of the net costs distorts the benefit cost ratio by minimizing the denominator costs that is divided into benefits. The costs and benefits of O&M actions are not yet done properly. The savings in OMRR&R costs of the existing navigation for Freshwater Bayou and GIWW (Fed costs) and the non-Fed costs of the by-pass channel at Freshwater, should be counted as benefits (\$1,067,000 as shown above), just like the transportation savings (and value of new contracts based on congressional language) and the total cost of OMRR&R of a new harbor project consisting of deeper Freshwater Bayou, deeper and wider GIWW segment and the canal to Iberia, and the new by-pass construction (3,677,000 as shown above), should be included on the cost side of BCR. Also, the net figure shown on Table MR 5-2 is incorrect it should be \$2,610,000 not \$261,000. **The concern of the proper presentation of benefits and costs is not resolved.**

MVN Response: Concur with HQUSACE recommendation. Changes incorporated into final.

HQUSACE Analysis. The concern is **resolved**.

Q. Division of Plan Responsibilities. Reference is made to page 57 of the Main Report. The text needs further clarification and the following underlined text is suggested as a substitute for lines 4 through 9 starting with non-Federal and ending with Corps. The non-Federal sponsor 10% share of general navigation features required during construction would be \$16,494,448. In addition the sponsor would provide LERR and local service facilities amounting to \$1,613,000 and \$14,912,344 respectively. A suggested substitute for table 4-3 is attached. Note that the Federal expense for lands and damages is a general navigation feature and is cost shared as such. Also the revised total on the last line of the table omitted the non-Federal LERR cost.

MVN Response. No response.

HQUSACE Analysis. The district response needs to be checked with both Division and HQ real estate offices. The concern is **not resolved**.

Action Taken: Concur. The substitute table was incorporated into the main report.

HQUSACE Analysis (13 October 2005): The incorporation of the table **has resolved the concern.**

#### **4. SPECIFIC COMMENTS ECONOMICS APPENDIX. (23 August 2005)**

A. New Associated Costs Loadout Equipment at 20-foot Depth. Reference is made to page 17. “Featured at the 62.5-acre POI (Omega Natchiq) facility with a 4,000-foot waterfront is a 180-foot “open cell” bulkhead system that can fabricate and load out projects in excess of 6,000 tons.” Also a reference is made to page 19. “The (Dynamic Industries) main yard has two slips capable of loading out structures up to 6,500 tons.” A further reference is made to a third firm at the Port of Iberia on page 20. “The ship, bulkhead, and load out facilities at the (Unifab) fabrication yard enable the company to produce decks and deck components weighting up to 6,500 tons, but access channel limitations restrict structure weights to something under 4,000 tons. A reference is made to page 26 to establish topside weights at the recommended 20-foot depth. “The largest jacket and topsides fabricated by the Morgan City yard weighed 26,000 tons and 23,000 tons, respectively. At a 20-foot depth topsides at 23,000 tons can be handled. The report made no mention of any port side investment needed for load equipment needed to handle the weight of topsides consistent with the 20-foot project depth. The report must show any land side investment needed to achieve the recommended project depth per ER 1105-2-100 Appendix D, Amendment #1 30 June 2004 page D-9.

MVN Response. Attention should be given to Annex 4 of the Engineering Appendix (Appendix C), which is attached. In this Annex, the berthing areas and load out capabilities for most of the businesses in the Port are discussed. I've highlighted in yellow the 3 businesses mention in HQ's comment. During the course of the study, Shaw-Coastal, Inc. (SCI) determined that businesses already had enough water and load out capability at their facility to offload equipment, or could adjust their offloading as needed. Additionally, we were informed that each load out was analyzed individually, and adjustments were made as necessary to the applicable bid prices. If, for example, a loading platform was needed to load out a platform or piece of heavy equipment, then the cost for construction of the loading platform was added to the bid price.

HQUSACE Analysis. The only associated costs presented in the above referenced Annex 4 are for new bulk heads to accommodate the increased channel depths in the harbor areas. The district needs to address the potential need for berth area dredging. The concern is **not resolved.**

Action Taken: If required, dredging of berthing areas is anticipated to be minimal based on discussions with POI fabricators. In the PED phase, dredging of berthing areas will be evaluated and this assumption verified.

HQUSACE Analysis (13 October 2005): There is potential for significant berth dredging costs to be overlooked until the PED phase. Information is needed on the current depth and proposed depth for each of the firms benefiting from the project deepening from 12-feet to 20-feet. An estimate of the quantities needed to be dredged and per cubic yard cost based on past experience is needed to reduce the risk of a significant cost under estimation. Also, an estimate for the benefiting firms is needed of their associated berthing dredging costs and potential benefits to determine their likely participation in the proposed project. If the firms berth dredging cost is greater than potential benefits participation by that firm is unlikely. **The concern is not resolved.**

MVN Response: Refer to 3.J.

HQUSACE Analysis. The concern is **resolved**.

B Alternative Assembly of Topside Components on Deepwater. Reference is made to page 20. "A site was acquired in Lake Charles in 1999 on the 40-foot deep Calcasieu Channel, with operations begun in 2000. One of the purposes of this acquisition was to secure a deepwater location for the assembly of larger platform components from the POI facility. Although the Lake Charles facility has been sold, these facilities may have some without project potential for future assembly of components of larger platform from POI. Note ER 1105-2-100 22 April 2000 page 2-4 states, "Plans that could be implemented under the authorities of other Federal agencies, State and local entities and non-governmental interest should also be considered." Topside assembly at a deep water site could be the most economical alternative depending on transportation costs to the deepwater site and assembly costs at the deepwater site. Describe the without project potential for future deep-water assembly of components of larger platform from POI.

MVN Response. Concur – However, at this time not enough information is available to analyze this site.

HQUSACE Analysis. The concern will be resolved upon discussion of the without project potential for future deep-water assembly of components of larger platform from POI. The concern is **not resolved**.

Action Taken: The main report and Economic Appendix include a brief description of the future without project limitations for deepwater assembly of larger platform components by POI fabricators. Due to the costs and risks associated with lift derrick barges required to assemble components offshore, the industry is moving toward one-piece construction of the topside and hull. Thus, the POI future is limited given the depth restrictions and increased size of the hull and topside as a whole.

HQUSACE Analysis (13 October 2005): The action taken **has resolved the concern**.

F. Design Draft and Sailing Draft. Reference is made to page 89. Table 29 shows 19 average annual trips of barges with a design draft of 20-feet during the period 1998 to 2002. It would appear that these barges were light loaded since the channel is at 12-feet. What was the actual sailing draft of these barges?

MVN Response. Due to time limitations on this schedule further analysis is not possible.

HQUSACE Analysis. The concern will be resolved when this concern is discussed in the final report. The concern is **not resolved**.

Action Taken: A 400-foot x 100-foot x 20-foot deck barge is currently the largest, typical carrier of topsides to the Gulf operating at POI. At its fully loaded draft, it has a carrying capacity of 12,500 tons and draws 14-feet, 3-inches. Some adequately powered, shallow-drafting towboats are available to transport the barge and the 16-foot channel would appear to be the minimum depth required to serve the Federal interest. However, the POI is expected to win contracts for larger topsides that would require deeper draft customized barges. The exact dimensions of these barges would depend on the topside shape and size. However, the industry standard appears to require a minimum 20-foot draft for the deeper draft barge and larger towboats required to transport these structures.

Based on traffic analysis obtained from a Traffic Study prepared for the CE-MVN, it was determined that the 150-foot channel would adequately address the criteria associated with the majority of vessel traffic using the project and therefore, was the maximum channel width evaluated in the economic analysis and the Environmental Impact Statement.

HQUSACE Analysis (13 October 2005): Reference is made to Main Report page MR-4-6. The equipment that would be utilized for the 20-foot deep channel was not identified. The Appendix A - Economics shows on page 39 that the Houma Navigation Canal is 19-feet deep with 3-feet of advance maintenance and one foot of overdepth added to the authorized depth of 15-feet. Also the Morgan City yard of McDermott is located on a 20-foot access channel. Explain if the navigation equipment used at Houma and Morgan City in their channels that have a greater authorized depth than Iberia have suitable dimensions (Length, Width and Draft) for the proposed Iberia channel 20-feet deep by 150-feet wide. The barge cited in the Action Taken carries 12,500 tons at its capacity of 14-feet. Provide information (Loadline, Draft, Length, and Width) on the dimensions of barges needed at the 16-foot, 18-foot and 20-foot depths. **The concern is not resolved**.

MVN Response: Refer to 2.A.(1)

HQUSACE Analysis. The concern is **resolved**.

G. History of Deepwater Toppides Within Iberia Capability. A reference is made to pages 63, 66 and 68. It is not clear what size topsides are associated with the depths from 12-feet to 20-feet. “Historically the major oil companies have not considered bids for deepwater fabrication contracts from fabricators at ports with less than a 20-foot channel. Therefore the next increment of channel depth that produces economic benefits is 20-feet.” However, it states on page 63, “The Thunder Horse topsides was said to have been built in three modules about 5,000 to 6,000 tons each, with the largest piece about 6,500 tons. The topsides for the Holstein project were in three modules that totaled about 17,000 tons. The largest piece of the Holstein topsides was 8,500 tons. The Mad Dog project, the second largest Spar, had single piece topsides of 7,500 to 8,000 tons.” It appears that these deepwater topsides are within the current capability of the Port of Iberia. The report needs to provide the port where these were constructed and why Iberia may have been excluded from the competition. The market share of 25% may not be appropriate for all topsides over 23,000 tons which are the largest constructed to date at the 20-foot Morgan City port.

MVN Response. It appears that the industry is awarding contracts to ports that can build all sections for a given deepwater facility. POI has been limited to sections of less than 6,500 tons and thus is not considered for many contracts.

HQUSACE Analysis. The report text needs to clarify what channel depth is associated with the corresponding topside tonnage. The concern is **not resolved**.

Action Taken: The main report text is consistent with the Economics Appendix.

HQUSACE Analysis (13 October 2005): Reference is made to page 108 of the Economics Appendix. “The 16-foot channel will accommodate topsides of 10,000 tons or less, 18-feet will accommodate 15,000 tons or less and the 20-foot channel will accommodate 20,000 tons or less. This evaluation contradicts the district evaluation of Technical Review comment Id 962332. “A 400-foot x 100 x 20-foot deck barge is currently the largest, typical carrier of topsides to the Gulf operating at POI. At its fully loaded draft, it has a carrying capacity of 12,500 tons and draws 14-feet, 3 inches. This information is also on the McDonough Marine web site. This barge could be used with the authorized depth of 12-feet, 3-feet of advance maintenance and 1 foot of overdepth. The sum of these depth factors is 16-feet which would provide two feet of safety clearance. Based upon without project actual practice deepening benefits should not be provided to topsides of 12,500 tons or less. The main report economics appendix text conflicts with the McDonough Marine web site. The report needs to clarify what channel depth is associated with the corresponding topside tonnage. The concern is **not resolved**.

MVN Response: Refer to 2.A.(1)

HQUSACE Analysis. The concern is **resolved**.

## 5. SPECIFIC COMMENTS ENVIRONMENTAL IMPACTS. (23 August 2005)

C. Dredge Disposal, Marsh Restoration and Beneficial Use. The main report and EIS appear to muddle/mix/confuse/obscure the purpose and justification for the disposal method recommended in the study. Examples;

- Pages S-5 and S-6 of the EIS state that dredged material would be placed in shallow water areas in order to reestablish the eroded banks of the GIWW and FWB, and to stop the erosion of marshes in the project area. Additional dredged material would be used for marsh creation in shallow open water or in areas identified for marsh nourishment.
- Page 2 of the EIS states that the study investigated methods for using the dredged material for the project beneficially to restore previously lost wetlands, and to reduce current losses.
- Page 27 of the main report states that dredged material would be used for marsh restoration purposes and other purposes.
- Page 28 of the main report states that some of the dredged material would be disposed of in offshore areas in order to nourish the beach; this method is identified as the least-cost environmentally acceptable plan.
- Page 8 of the EIS states that “A determination was made that all beneficial use of dredge material would be formulated as mitigation for the project and would not be considered environmental enhancements, although the project may result in a net positive.”

Aside from the authorization issue noted in item 2 above, it is not at all clear whether the proposed disposal methods discussed in the report represent the *least-cost* disposal method, or whether other lower cost disposal methods should be, or have been, examined as part of this study. In addition, it is not clear if the proposed disposal methods and sites are being pursued as a beneficial use of dredged material. Clarification of this issue is requested in the main report and EIS. Should it be demonstrated that the proposed disposal methods of the dredged material in the shallow waters adjacent to the Federal channels represents the least-cost environmentally sound disposal method, no further justification would be needed.

MVN Response. Regarding the bullet portion of this comment. Concur. Rewrote DEIS sections dealing with disposal methods to ensure clarity and consistency. This revised information will be incorporated in the main report.

Second part of comment: In Appendix 2 of the Engineering Appendix, three other disposal alternatives were presented for comparison to the selected plan, including a plan for disposal in an Ocean Dredge Material Disposal Site (ODMDS). In all cases, the selected plan was the least cost plan. Additionally, the selected plan appeared to be the only environmentally acceptable plan.

HQUSACE Analysis. The issue is **partially resolved**. The response concerning the clarification the dredged material disposal methods is adequate; however, the report

requires further revisions to draw a clear distinction between the proposed dredge disposal methods and those actions that would be undertaken solely for purposes of project mitigation. For example, the report contains a brief description of the mitigation plan for the dredged material disposal site near the Commercial Canal, but does not clearly distinguish whether the disposal of dredged material adjacent to the existing GIWW is simply the least-cost environmentally-sound disposal method or project mitigation for adverse effects. The above district response appears to indicate that the comparative costs of ocean disposal have been determined. This response contradicts the response in 3C that the comparative costs of ocean disposal have not been determined.

Action Taken: The comparative costs of ocean disposal have been determined and the selected plan is still the least-cost environmentally acceptable option. The least cost environmentally acceptable plan will make the project self-mitigating since the planned disposal compensates for any environmental damage that may result from the project.

HQUSACE Analysis (13 October 2005). Annex 2 of Appendix C shows the comparative costs of Disposal Alternative No. 4 – Deepwater Ocean Disposal. Ocean disposal would cost \$3.4 million over the entire 55 year life cycle made up of a 5 year construction and a 50 year evaluation period. The information in Annex 2 of Appendix C **has resolved the least cost disposal concern. However, the self-mitigation issue which is also discussed in items 5D and 5E are still unresolved.**

MVN Response: Refer to item 2.B.(1)

HQUSACE Analysis. The concern is **resolved**.

D. Mitigation Needs Determination. HQUSACE questions the need to provide compensatory mitigation for this project given that the recommended disposal method for the dredged material would result in a net gain of over 4,000 acres of marsh as compared to the without-project condition (Table S-1 of EIS). In addition, Table S-1 shows that the proposed plan would result in the gain of almost 6,000 AAHUs over the without-project condition. The project-induced impact cited as requiring mitigation is the conversion of 343 acres of marsh at the disposal site adjacent to the Commercial Canal. Considering that the proposed project would result in a net gain of over 3,500 acres of wetlands, the loss of the 343 acres at the mitigation site would not appear to be significant, and therefore, would not require compensatory mitigation under Corps policy. Guidance on determining mitigation requirements is found in section C-3 (d) of ER 1105-2-100.

MVN Response. Do not concur. Deepening channels is considered adverse to wetlands. Habitat mitigation must be in-kind. The 343 acres of fresh marsh is being mitigated for with the similar habitat type acceptable in the project area. The remainder of the positive habitat units or acres resulted from formulating the disposal of the dredge material by using an “avoid and minimize” approach outlined by NEPA law and the guidance from the USACE Environmental Operating Principles.

HQUSACE Analysis. The issue is **not resolved**. The District does not appear to have used a habitat-based evaluation methodology to describe and assess the potential impacts of the dredging, as required in ER 1105-2-100, C-3 (d) 5. Appendix B to the EIS has a WVA analysis of the anticipated effects of the dredging conducted by the USFWS, but this analysis is not a substitute for an adequate mitigation plan in compliance with Corps guidance. Detailed guidance on mitigation planning is found in section C-3 (e), pages C-15 to C-21 of ER 1105-2-100. A proper mitigation plan must describe and evaluate the current environmental conditions, identify and characterize the likely adverse environmental affects of the project, make a determination of the significance of the identified impacts, and using this information, develop an appropriate mitigation plan incorporating a cost-effectiveness/incremental cost analysis. In the absence of the above information, the District has no basis to insist that any mitigation is necessary for the project.

Action Taken: The WVA analysis determined that the tentatively selected plan is self-mitigating. The results of this analysis are contained in a summary table in the draft EIS. The WVA was used as a component in determining that the TSP is the least cost environmentally acceptable plan. Since the planned disposal compensates for any environmental damage that may result we have met the compensatory mitigation recommendation of the USFWS.

HQUSACE Analysis (13 October 2005): In the absence of the above information, the District has no basis to insist that any mitigation is necessary for the project. The action taken **has not resolved the concern**.

MVN Response: Refer to 2.B.(1)

HQUSACE Analysis. The concern is **resolved**.

E. Cost Effectiveness/Incremental Cost Analysis (CE/ICA). Lastly, if compensatory mitigation is determined to be required for this project, cost effectiveness/incremental cost analysis must be completed for the mitigation plan, in compliance with section C-3 (e) 8 of ER 1105-2-100. The existing mitigation plan cited in this study does not appear to have been evaluated using CE/ICA.

MVN Response. Do not concur. The project is not being justified on NER or any sort of environmental outputs therefore there was no need for this analysis. The project was formulated to be self-mitigating.

HQUSACE Analysis. The issue is **not resolved**. Paragraph C-3 (e) 8 of ER 1105-2-100 discusses project mitigation. The first sentence of this paragraph states; "An incremental cost analysis shall be performed for all recommended mitigation plans." It is clear that this statement and paragraph refer to mitigation plans, and not NER benefits. HQUSACE will require that a CE/ICA analysis be completed for this project mitigation plan.

Action Taken: The TSP is the least cost environmentally acceptable plan and will make the project self-mitigating since the planned disposal compensates for any environmental damage that may result from the project.

HQUSACE Analysis (13 October 2005): HQUSACE will require that a CE/ICA analysis be completed for this project mitigation plan. The action taken **has not resolved the concern**.

MVN Response: Refer to 2.B.(1)

HQUSACE Analysis. The concern is **resolved**.

## **6. SPECIFIC COUNSEL AND REAL ESTATE COMMENTS. (23 August 2005)**

A. Legal Certification. There is no legal certification of this Draft Feasibility Report.

MVN Response. Concur. A legal certification will be completed when the report is sufficiently complete to allow certification.

HQUSACE Analysis. There is no legal certification of the report. The response is it will be completed when the report is sufficiently complete to allow certification. Why are we reviewing the report when the District indicates it is not sufficiently complete? When will we receive legal certification?

Action Taken: Legal certification will be provided for the final draft feasibility report.

HQUSACE Analysis (13 October 2005): The legal certification was provided for the Draft Feasibility Report on 24 August 2005, prior to the recent area hurricanes. Is the Draft EIS still legally sufficient?

MVN Response: Yes

HQUSACE Analysis. The concern is **resolved**.

H. Identification of Mitigation Lands. Page EIS-68 of the EIS, the Corps has agreed that mitigation lands be dedicated in perpetuity to fish and wildlife purposes through fee acquisition or placement of non-developmental easements on those lands assuming that lands rights associated with the state of Louisiana and private interests can be resolved prior to construction. Mitigation lands are not identified in the REP. The mitigation lands need to be identified in the REP.

MVN Response. Concur. A total 229 acres in three sites have been identified as mitigation lands per Table 3 on page 26 of the Environmental Appendix. Section 2 of the REP has been updated accordingly.

HQUSACE Analysis. The response to this question regarding mitigation lands should be consistent with the responses to 5C, D and E. The mitigation identified in the REP is for 229 acres of dredged material placement easement, which is identified as the least costly plan for disposal of dredge material. Is this mitigation or the least costly method to dispose of dredge material? If it is mitigation, what are we mitigating for? Additionally, fee is typically required for mitigation so without knowing the mitigation purpose these lands are serving and whether the necessary rights will be acquired, the non-standard easement estate cannot be approved for this purpose. The USFWS Recommendations (relating to mitigation) that the Corps has agreed to also should be addressed in this comment.

Action Taken: We concur and believe that this response is consistent with Action Taken on 5C, D and E. The TSP is the least-cost environmentally acceptable plan and will make the project self-mitigating since the planned disposal compensates for any environmental damage that may result from the project. Since the planned disposal compensates for any environmental damage that may result we have met the compensatory mitigation recommendation of the USFWS.

The USFWS Coordination Act Report recommends, in Section 9 of Appendix B the following: that the placement of dredge material include rock armoring (dikes); maximum height of dredge material is 5-feet NAVD 88; future maintenance dredge material will be placed primarily within existing planned disposal areas; and the periodic monitoring of the disposal areas and placement of non-development easements are recommended. These recommendations are included in Appendix C and Section 10 of Appendix B.

The necessary rights required to affect the selected disposal plan are contained in the non-standard estate presented for approval. The non-standard estate is a Permanent Dredge Material Placement Easement and explicitly provides for the placement of dikes, structures (benchmarks) and restricts placement of structures (non-development) to ensure the availability of the area for future use. We concur that generally a fee estate is required for environmental purposes, but, per ER 405-1-12, paragraph 12-9 (b(6)), “a lesser, or easement estate, may be appropriate based on the extent of interest required for the operation or requirements of a project.” Thus, the non-standard estate is presented for approval.

HQUSACE Analysis (13 October 2005): Whether mitigation is required is an outstanding issue although it appears that the creation of wetlands through the planned disposal compensates for any mitigation that might have been required. If mitigation lands are not required for the project, the nonstandard disposal easement is appropriate for the project. If mitigation lands are required, it must be clear what recommendations from the Fish and Wildlife Coordination Act Report are being implemented before a

determination can be made that the nonstandard dredge material disposal easement is appropriate. **If mitigation lands are required, the costs for these lands should be cost-shared in the same percentage as that for the project.**

MVN Response: Refer to 2.B.(1). Mitigation is not required.

HQUSACE Analysis. The concern is **resolved**.

N. Federal Assumption of Maintenance. Land acquisition for the project is contingent upon an agreement by the Corps to accept the operation and maintenance of the Freshwater Bayou By-Pass channel, structures and improvements. Maintenance dredging costs are listed as a Federal cost in the report. The Corps would be accepting operation and maintenance as part of the authorization for construction of the improvements with subsequent Federal maintenance. The Corps currently maintains the Freshwater By-Pass Floodgates at a cost of \$120,000. In light of the limited and infrequent use of the improved navigation feature by a very limited number of users the basis for the Federal assumption of maintenance must be covered in the report.

MVN Response. The Federal share of the cost of operation and maintenance of each navigation project approved after November 17, 1986, shall be 100 percent, except in the case of a deep-draft harbor. It is the benefit created by the project, not the frequency of use that drives the justification for the project. It is the project purpose, not the frequency of use that triggers the cost sharing provisions under Section 101 of WRDA 86. Federal assumption of operation and maintenance of the bypass channel, structures and improvements is added to the DE's recommendations.

HQUSACE Analysis. The above response has resolved the concern for the public draft report.

Action Taken: None required

HQUSACE Analysis (13 October 2005): **This issue needs to be revisited for the Final Feasibility Report.** Per the Cooperative Agreement between LADOTD and POI, land acquisition for the project is contingent upon an agreement by the Corps to accept the operation and maintenance of the Freshwater Bayou By-Pass Channel. Currently, the Abbeville Harbor and Terminal District (AHTD) operate the bypass channel, while the Federal Government operates and maintains the FWB Lock structure. With project implementation all O&M would be 100% Federal. The following item of local cooperation is needed, which is similar to that incorporated into the Chief of Engineers Report for Bayou Lafourche and Lafourche Jump Waterway dated 7 April 1995. The non-Federal sponsor needs to provide during the period of construction, the portion of the cost of the construction that is allocated to removal of shoaled maintenance material from the non-Federal Freshwater Bayou By-Pass Channel, which is maintained by the Abbeville Harbor and Terminal District (AHTD) at 125-feet wide and 12-feet

deep. The maintenance would include 3-feet of advance maintenance and 1-foot of overdepth.

MVN Response: Due to restrictions at the FWB Lock, the authorized FWB main channel would be realigned through the FWB by-pass channel. Realigning the channel and avoiding modification to the FWB lock is a cost savings to the project and should be shared in the same manner as the overall project.

HQUSACE Analysis. The concern is **resolved**.

**B. RESOLUTION OF POLICY COMPLIANCE REVIEW CONCERNS ON THE AFB MATERIALS.** The following paragraphs discuss the resolution of concerns raised on the AFB Materials during the HQUSACE policy compliance review. Discussions during the AFB meeting are documented in the attached Memorandum for the Record (encl 2). HQUSACE Analysis paragraphs were added below to guide preparation of the draft feasibility report. The proposed action by the District in preparing the draft report is shown for each concern. The HQUSACE Analysis indicates whether or not the concern is resolved by the changes the draft report. For unresolved concerns the Action Required and Action Taken for the final report are noted followed by the HQ Analysis.

1. Background. Large offshore rig fabrications and offshore petroleum services are the predominant sources local economic activity. Channel depth and width restriction limits most of the firms from consideration for deepwater oil platform fabrication contracts. Enlarging the channel will also allow the deeper draft service boats to use the waterway. The recommended channel size is 20 feet deep x 150 feet wide. Total project first cost, which includes costs for real estate and local service facilities are \$193,639,935. The average annual OMRR&R costs are estimated at \$2.6 million.

FEATURES	ESTIMATED COST
Initial Dredging, Commercial Canal	\$11,433,760
Initial Dredging, GIWW	\$34,285,928
Initial Dredging, Freshwater Bayou Interior	\$69,036,225
Initial Dredging, Freshwater Bayou Bar Channel and By-Pass	\$14,156,788
PED Surveys	\$350,000
PED Borings	\$300,000
Bulkhead Replacement (LSF)	\$17,000,072
By-Pass Channel Floodgates	\$21,269,527
Removals	\$24,111,323
Real Estate	\$1,696,313
TOTAL	\$193,639,935

2. ECONOMIC ANALYSIS. The proposed project benefits are based, in part, on non-standard benefit measurement methodologies. There are also concerns with the determination of the net income benefits from transfer of oil platform fabrication contracts from overseas vs. competing regional ports. These contracts are also subject to competition and distribution among other U.S. Gulf of Mexico ports. Paragraph A. below, discusses the overall concerns with the various benefit categories and their measurement as presented in the AFB materials. The remaining paragraphs (B – N) provide more specific concerns and issues, which need to be addressed in revising the economic analysis.

A. Three Sources of Benefits. Benefits for the Port of Iberia deepening are from three sources: First, the net income derived from displacing overseas firms for new deepwater fabrication contract work that result from the project. Second, the incremental increase in the offshore service industry activity related to the deeper channel. Third, the avoided losses due to forced obsolescence of oil platform fabrication that occurs in the without project condition.

(1) Net Income From New Fabrication Contracts. (\$ 8,210,000 annual benefits) Reference is made to page ix of the NPPWI Draft Report. “The net income earned, before taxes, by the private sector firms is used to quantify the project benefits from business expansion. Net income is defined as the surplus revenue collected by the producers and investors after paying the total cost of production including normal returns to labor, capital, management expertise, and other factors of production. The margins of net income earned ranged from 10 percent to 20 percent of the additional revenues earned by the firm.” A change in net income as a NED benefit is in conformance with the ‘Principles and Guidelines’ (P&G) and ER 1105-2-100 page E-41. However, the measurement of a change in net income by asking firms how much additional gross income would be earned and applying a “profit margin” factor is not an acceptable methodology. Since there is a shift in origin for the building of the oil platforms, the total cost of production and transportation changes. Per ER 1105-2-100 page E-41. “If there is a change in the origin of a commodity because of a proposed plan but no change in destination, the benefit is the reduction in the total cost of producing and transporting quantities of the commodity that would move with and without the plan.” If there is a shift from a U.S. origin (U.S. to U.S.) the benefit is the reduction in the total cost of producing and transporting quantities of the commodity. This would likewise be true if there were a shift from a foreign origin (Foreign to U.S.). The district needs to reevaluate the net income from new fabrication activities by measuring the total changes in production and transportation costs.

**RESPONSE:** *Concur* - Market study will determine cost of production at all levels for both foreign and domestic fabricators.

**HQUSACE ANALYSIS:** The response only referenced the cost of production and not transportation. Reference is made to ER 1105-2-100 Page E-41, Paragraphs (2) Shift of Origin Benefits. **The thrust of the economic benefit identification is to determine the number and time phasing of deep water offshore rigs that have the potential to**

**utilize the topside fabrication work for the Port of Iberia in the with and without project conditions. The Shift of Origin Benefit** is the difference between production and transportation costs between the with-project and the without-project condition. The value of the delivered commodity is the maximum amount buyer is will to pay.

(2) Transportation Costs Savings. (\$ 4,650,000 annual benefits) The incremental increase in the offshore transportation service industry activity related to the deeper channel is a traditional navigation benefit. In this case the benefits are to be tied to savings in transportation costs due to incremental increases in channel size (depth & width). This can be considered an NED benefit if the activity is not a transfer from another port, is due to project deepening and can be measured as a net income savings due to waterborne transportation. However, the AFB materials measure this benefit by asking the area firms how much savings they would incur and use these reported values. This is not an acceptable measurement technique. ER 1105-2-100, Appendix E, Section II, Paragraph E-10 pages E-37 to E-40 describe the methodology which should be employed in measuring transportation cost savings involving the same origin and destinations. The district needs to reevaluate this benefit category in accordance with ER 1105-2-100 and the P&G.

**RESPONSE:** *Concur* - Transportation cost analysis is underway at the District and under contract for future fabrication.

**HQUSACE ANALYSIS:** Implement the cost analysis that measures the savings from the same origin and destination. The oil service vessels would have the traditional cost reduction benefits from an improved channel that would serve the same origin, destination and harbor.

(3) **Forced Obsolescence. (\$ 3,420,000 annual benefits)** The avoided losses due to forced obsolescence of plant and equipment used in oil platform fabrication that occurs in the without project condition is shown as a benefit. The report indicated that the industry is operating at capacity and if the existing plants at this site continue the investment will be conserved and not duplicated elsewhere. This is a non-standard benefit, which is not in the approved categories shown in ER 1105-2-100 (22 Apr 2000) Pages D-11 and E-5. This non-standard benefit would be extremely difficult to determine. The relative role of an increase in channel size would have to be isolated from the effects of domestic and foreign competition. The obsolescence of plant due to a shift in business can be considered a sunk cost on assets that may be substantially depreciated and obsolete due to changes in technology. Although the loss business due to insufficient channel depth can be catastrophic to individual firms, these are sunk costs. Only new investment is considered in the NED resource accounts. What is the total cost of production (and delivery) at some other location compared to production (and delivery) at Iberia? The differences between w/o versus w/ are the benefits. If a good deal of new investment would be required at other locations it seems likely there would be cost savings at Iberia; if facilities at Iberia are already obsolete however, that is, old and inefficient, then benefits may be slight or non existent. The district needs to more clearly describe what they attempting to measure here, how it would be considered a valid NED benefit, and develop a proposed methodology for measuring the benefits.

**RESPONSE:** Concur - This nonstandard benefit category is being reevaluated.

**HQUSACE ANALYSIS:** Implement response reevaluation.

B. Competition from Non-U.S. Fabricators. The strong competition from foreign suppliers, particularly in the construction of platform hulls by foreign contractors, was identified as an important constraint. The factors favoring foreign suppliers in this area are: (1) the foreign government subsidies to shipyards (2) the low price of subsidized steel, which is the major raw material cost and (3) the availability of low-cost skilled labor services. The review team is concerned that the productivity improvements generated by the proposed deepening project may not materially affect the competitive position of Iberia area industries. The relative cost savings magnitude of factors favoring foreign competition needs to be presented and compared to Iberia costs to determine the relative change in competitiveness from deepening the channel.

**RESPONSE:** Concur - The magnitude and availability of the subsidies as well as the cost of production, including transportation costs will be estimated in the market study.

**HQUSACE ANALYSIS:** In order to resolve the concern, the market study needs to determine the channel deepening cost savings at Iberia compared to foreign competitor to determine the relative change in competitiveness from deepening the channel.

C. Competition from Deeper Morgan City and Houma. Reference is made to page 34 of AFB Report. Information in the AFB Report indicates that there is considerable potential for regional transfers of fabrication contract business from Morgan City and Houma. "The port of Morgan City has the necessary channel depth and infrastructure to win some contracts. The Corps is conducting a study for the port of Morgan City to determine if a deepening of their 20-foot channel to 35 feet is economically feasible. The port of Morgan City is interested in entering a segment of the deepwater offshore facility fabrication market that would take them out of competition with the Port of Iberia." It is not clear why Morgan City would not continue to compete for the fabrication contracts that Iberia can undertake. "The only other competitor is Gulf Island Fabrication located on the Houma Navigation Canal. The canal currently has an authorized depth of 15 feet and this also eliminates them from bidding on the new work for deepwater rig fabrication contracts." However, the Houma Navigation Canal is 3-feet deeper than Iberia and has a study underway for deepening to 20-feet. Based on this information there is considerable potential for regional transfers of fabrication contract business from Morgan City and Houma. In teleconference on 22 June 04, Dr. Jay of UNO stated that US firms are highly competitive with foreign firms in the offshore fabrication market. The revised economic analysis requires including US firms in the evaluation of changes in productions and transportation costs.

The report states that during the last five years, approximately \$5 Billion of the \$13 Billion spent on deepwater production platform hulls were built at U. S. fabrication

plants. Even though firms located at the Port of Iberia cannot compete with foreign suppliers, obviously others can. The report needs to identify the success stories leading to this \$5 Billion in sales, and explain why this can't be continued or even approved upon by these successful domestic fabricators without a significant investment in the Port of Iberia channel.

The report claims that the proposed \$194 Million investment in channel deepening is the most efficient plan to accomplish the study objective within local funding constraints. But the report fails to address the possibility that a lesser Federal investment at some other locations on the Gulf Coast could achieve the same outcome at a lower cost. Other studies in the region are ongoing, such as the deepening the channel serving Morgan City. Other possible Federal investment sites include the Harvey Lock and Canal system, where Dynamic Industries other fabrication plant is located (note: Dynamic Industries at the Port of Iberia captures more than 27 % of the projects benefits). Major Louisiana- based competitors of UNIFAB's (about 25 % of the project's benefits) are located on the Houma Navigation Canal or the Lake Charles area navigation system (Gulf Island Fabricators and Global Industries, respectively). A broader regional assessment is required to determine the most cost-effective way of removing the navigation constraint to confront the foreign competitive advantage.

**RESPONSE:** Concur - The market analysis will determine the relative positions of the other Gulf Coast ports with fabrication facilities.

The POI only participates in the top-side sector of the offshore fabrication industry. Historically this has meant packages under 4000 Tons, which enabled the POI fabricators to function with a 12' draft channel. At the same time the HOUMA fabricators were building bottom structures and top-sides and delivering them with a 15' draft channel but the 3' of extra draft was only used for the heavier bottom structures. Meanwhile MORGAN CITY fabricators were also building bottom and top-sides and delivering them in their 20' draft channel. As the structures began getting bigger and bigger, each of these three "niche" area's channels became insufficient for the market shares they were handling.

Now that the "deepwater" production facilities are floating instead of resting on the seafloor, the production top-sides associated with these type facilities are not as restrictive to size and weight. Therefore, top-sides larger than 4000 Tons are now common to the marketplace and for our industries to survive (POI, Houma, and Morgan City) and to continue to build top-sides (which are built in all three places) a minimum of 20 feet of water is required on each channel.

It should also be noted that for HOUMA to continue building larger bottom structures (those that they have built in the past) they will also require 20' of draft and that MORGAN CITY fabricators will need 35' of draft to continue to lead the market in the larger bottom structures (hulls in today's market) sector.

The critical issue raised by the comment is whether a deeper channel for the Port of Iberia would result in greater competitiveness on the international market, or whether it would simply result in regional transfers, taking business from other regional ports. In

order to address this issue we have to examine both the historical development of the offshore support sector in the Gulf of Mexico and the current physical and social infrastructure associated with offshore oil and gas support ports in the Gulf.

There are a variety of routine activities that are associated with offshore petroleum that utilize vessels that must be based onshore in some port situation. These range from seismic activities to diving operations, from pipeline laying to offshore supply. Offshore supply involves providing the goods and services for day-to-day offshore operations associated with exploration, development and production; the transportation of casing, drill string (pipe), drilling mud, cement, potable water, catered food, operational personnel, maintenance personnel, etc. For these routine activities ports serve as a transition point for goods and services as they move from land to water transportation, or as support bases for vessels such as seismic and underwater survey vessels when they are not actively engaged offshore.

An equally critical role for ports that support offshore petroleum activities is the fabrication of the structures that make the offshore sector possible. Most commonly, these are components of the production platforms, which are installed (relatively) permanently, but they may also include the construction of support vessels, barges, and mobile drilling rigs. Components of production platforms are generally taken offshore on large barges and the transportation of these components are limited by the width of the waterway or structures through which they must pass, the height of bridges under which they must pass and the depth of the waterway. The depth of the waterway determines how heavy (and hence large) a project can be loaded on a barge since the heavier the project the lower the barge sinks in the water. As activities move into deeper and deeper water the components of the production platforms increase in size and weight. The Port of Iberia has no overhead restrictions (no bridges between the port and the Gulf) and channel width is only a potential restriction for the section of the channel between the Port and the Gulf Intracoastal Waterway. What has come to be the major controlling limitation on fabrication projects is the depth of the water.

Unlike many other economic sectors the activities associated with offshore petroleum are organized around an extractive activity. Because extractive enterprises must locate in proximity to the resource, they cannot necessarily locate near existing development and take advantage of shared labor supplies and support sectors. Fabrication activities are also limited by width, height and depth restrictions discussed above. As a result, these activities must often re-build the local environment (social, economic, and physical) to provide support for the extractive activity. This has happened in the central Gulf. The central Gulf of Mexico (Louisiana) has by far the longest historical association with support for offshore oil and gas in the world. Most of the techniques used to support offshore petroleum activities were developed in Louisiana originally for use in the Gulf. Today the central Gulf is still the principle location for offshore support. Over the half-century of offshore development in the central Gulf five primary specialty port locations have emerged in Venice, Houma, Morgan City, Port Fourchon and the Port of Iberia (Gramling 1996).

Two of these locations (Venice and Port Fourchon) are not currently engaged in the fabrication of offshore facilities and are not likely candidates to become fabrication sites for several reasons. First, routine support activities need to be based as close to the Gulf as possible since water transportation is much more expensive than land

transportation. Venice and Port Fourchon are literally both at the end of the road and as close to the Gulf as possible. For fabrication where water transportation of the finished product is not a common event (some components take a year or more to fabricate) getting the materials used in the construction (pipe, plate steel, machinery) to the site via land transportation is more critical than a shorter water transportation route. Thus the Port of Iberia's location on U.S. 90 (a major four-lane highway) and a branch railroad line is a considerable advantage.

Second, both Venice and Port Fourchon, because of their extreme southerly locations, are more vulnerable to tropical storms and hurricanes than the other three specialty ports. Vessels at these ports are highly mobile and can retreat up Bayou Lafourche or the Mississippi River in the event of a hurricane if necessary. The heavy equipment associated with fabrication is not so easily moved. Finally, neither the facilities at Venice or Port Fourchon have the necessary acreage to devote to fabrication. As a result these two ports have become specialized in the supply aspect of the offshore support sector. Enhancing the Port of Iberia's fabrication potential through a deeper waterway would in no way result in regional transfers from these ports because they have no fabrication role. On the other hand the Port of Iberia has very little in the way of an offshore supply function because of the considerably longer water route to reach offshore facilities and this will not change with a deeper channel. Thus, the provision of a 20 by 200 foot channel to the Port of Iberia would not result in regional transfers from Venice or Port Fourchon.

The limiting factor on regional transfers from facilities in the Morgan City and Houma areas are not the physical location and infrastructure as it is with Venice and Port Fourchon, but the human social capital, the unique mix of skills and specialties that have evolved in the vicinity of the ports paralleling the evolution of offshore technology. In 1999 as a part of the development of its master plan the Port of Iberia contracted a survey of employment for the 102 businesses located at the Port (Port of Iberia 2000). The result of this survey is reported in Table 1 (below). Thirty-five companies provided both a breakdown of positions, by job title, and an average salary for those positions. This allowed the calculation of Port averages for each of the positions by averaging across companies. An additional 18 companies provided breakdown by job type, but did not provide average salaries for the job types. The port averages were used to estimate salaries for these positions. A third group of 26 companies supplied total employment figures, but without the breakdown by job type, reporting a total of 1,010 employees. Finally, 23 companies could not be contacted or would not cooperate. In this latter case the interviewer who had been interviewing at the Port for several months, and who was most familiar with the size of various operations, estimated the total employment for these companies. All of these companies were relatively small and the total estimated employment for the group was 155. In addition, one of the largest employers at the Port was able to reconstruct employment figures (including job categories) for the previous year during a period of what they considered "full employment." Using these data it was possible to calculate what the employment picture looked like under a full employment scenario. These additional jobs are reported in the "Projected" column.

**Table 1: Employment by Job Category Port of Iberia**

<b>Occupational Category</b>	<b>Reported</b>	<b>Estimated</b>	<b>Total</b>	<b>Projected</b>
<b>Executive, administrative, and managerial occupations</b>				
Administrators/Owners	30	15	45	0
Foremen/Crew Leader	118	59	177	29
Offshore Operators/ROV Managers	44	22	66	44
Managers	59.5	27	86.5	12
Office Manager/Purchasing	17.5	9	26.5	0
Superintendent	40	20	60	13
Supervisors	44	19	63	0
<b>Professional specialty occupations</b>				
Draftsman	25	12	37	5
Engineer	8	4	12	0
Safety/human resources	12	6	18	-5
Professional NEC	10	5	15	0
<b>Technicians and related support occupations</b>				
Electronics Technician	21	10	31	0
Engineering Technicians	2	1	3	0
Technicians NEC	92	38	130	0
<b>Sales occupations</b>				
Sales	28	14	42	-21
<b>Administrative support occupations, including clerical</b>				
Dispatchers/Receptionists	9.5	5	14.5	0
Shipping/receiving	15	7	22	11
Clerical NEC	151.5	74	225.5	20
<b>Protective service occupations</b>				
Guard/watchman	8	4	12	0
<b>Service occupations, except protective and household</b>				
Maintenance	10	5	15	0
Service NEC	4	2	6	0
<b>Precision production, craft, and repair occupations</b>				
Electricians	43	22	65	-33
Fitters	173.5	87	260.5	69
Mechanics	61	22	83	33
Welders	254.5	127	381.5	150
Divers	96	48	144	0
Craftsman's Apprentice	69	35	104	0
Craftsmen NEC	4	2	6	0
<b>Machine operators, assemblers, and inspectors</b>				
Machinist	6	3	9	0
QC Inspector	11	5	16	8

<b>Transportation and material moving occupations</b>				
<b>Land based</b>				
Crane operators	17	9	26	7
Heavy Equipment Operators	32	16	48	14
Truck Drivers	51	26	77	0
Operators NEC	54.5	27	81.5	0
<b>Marine</b>				0
Boat Captains	80	40	120	0
Mates	34	17	51	0
Engineers	41	21	62	0
Seamen	34	17	51	0
Ord Seaman/deck hand	64	32	96	0
<b>Handlers, equipment cleaners, helpers, and laborers</b>				
Blaster/Painter	81	41	122	61
Helpers	130	65	195	130
Labor	100	50	150	0
Riggers	73	37	110	49
Roustabouts	13	7	20	0
Shop hand	12	6	18	0
Warehousemen	10	5	15	0
General Employment (not defined/classified in data)	80	40	120	0
<b>Total Employed</b>	<b>2373.5</b>	<b>1165</b>	<b>3538.5</b>	<b>596</b>

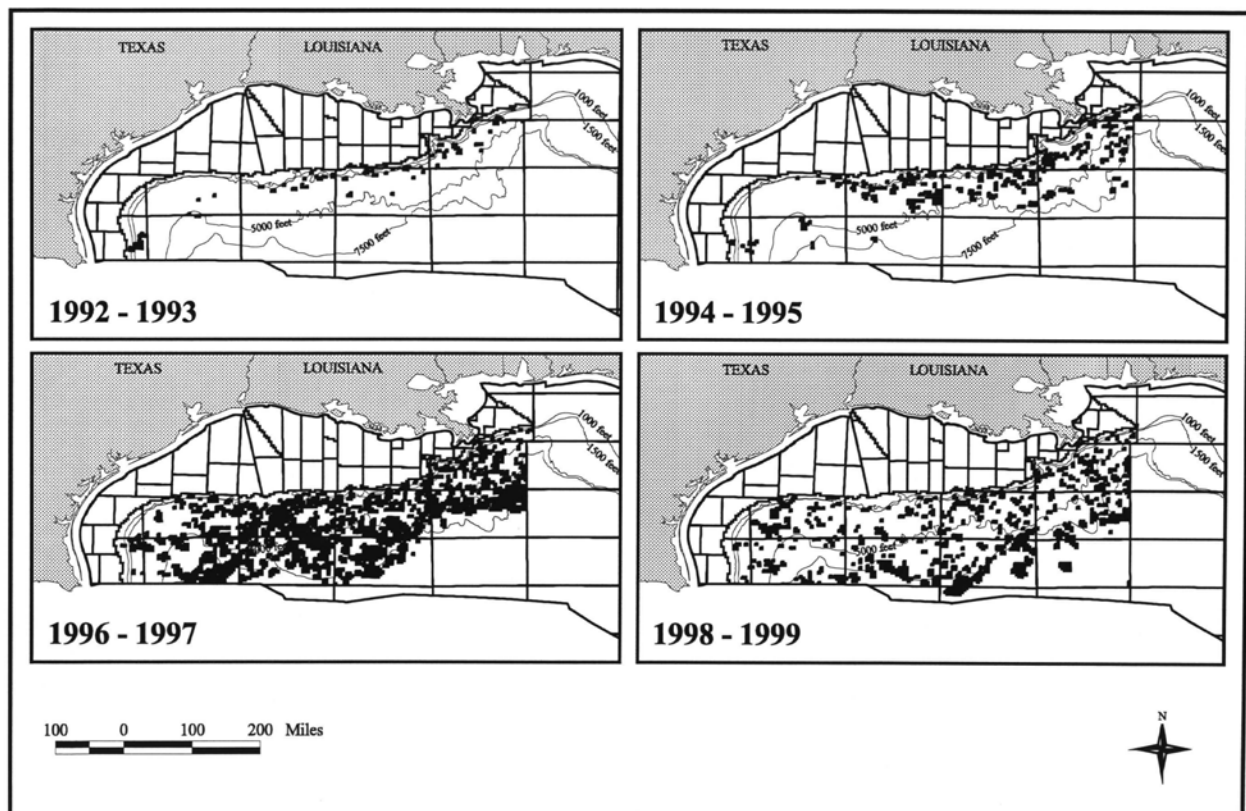
This is a unique data set<sup>1</sup> and it is instructive for several reasons. First, this is a complex mix of skilled labor that has evolved to fill the needs of a unique sector of the economy, the one associated with offshore petroleum exploration, development and production. This is not a mix likely to be found in small coastal cities in other parts of the country. Second, summing across all categories and using the port averages for estimates of all employee categories not supplied by some businesses the annual salaries for the entire port complex came to just over \$118 million, a significant contribution to the local economy. Third, there appears to be limited ability to expand the appropriate employee base quickly, even during periods of increased offshore demand.

The point here is that not only does the Port of Iberia have this unique set of skills available to support the offshore sector, but also each of the small cities (Houma, Morgan City and New Iberia) associated with offshore fabrication facilities have these sets of skilled labor. The employee pool surrounding the operations at Morgan City and Houma will be similar to that which emerged from the survey at the Port of Iberia and these mixes of skills and the experience associated with them is critical for efficiently meeting the needs of the offshore sector. These are not labor forces that can be assembled in any place as needed. In 1998 UniFab the largest company in the Port of Iberia, concerned about its inability to bid on deepwater projects, purchased and improved a fabrication

<sup>1</sup> The author is not aware of any other similar complex where all of the businesses at the complex have been surveyed or estimated.

yard in the Port of Lake Charles. The yard had a 35-foot water depth from the bulkhead to the Gulf of Mexico. The only project built in that yard was an economic disaster and today the Lake Charles yard is for sale. The problem was not the physical infrastructure, but the inability to assemble the employee skills to complete the project in a timely and efficient manner. We must remind ourselves that before deepwater development and the need for these structures these three Gulf Coast Ports built over 90% of all domestic offshore exploration and production facilities, plus some that went to the overseas market. The fabrication companies at these locations are highly efficient operations. But, increasingly they are not able to bid on larger and larger projects that, they are uniquely qualified to build, because they lack the channel depth to deliver the finished product.

These facilities have tremendous location advantage over foreign companies. The expense of towing a large project from Italy or Finland or Japan is a huge cost that foreign companies must include in their delivery prices and that oil companies moving into deep water must pay. They do pay it and jobs go overseas because of the structure of leasing on the U.S. Outer Continental Shelf. In the Gulf of Mexico lease sales are generally held annually. Depending on the water depth the successful bidder for an offshore lease has 5, 8, or 10 years to begin activity on that lease. Figure 1 shows the deepwater lease sales, which peaked during the 1996 through 1999 period.



**Figure 1: Deepwater Lease Sales**

The deepwater leases are those that successful bidders have 10 years to begin activity on. What Figure 1 shows is that a huge number of deepwater leases will potentially expire in the next few years. In 2007 alone over 1,000 deepwater leases will potentially expire, providing tremendous pressure for exploration. Many of these leases will not show sufficient petroleum resources to merit further consideration, however, in those cases where finds are sufficient for development the lease holder comes under considerable pressure to move forward in order to recoup the expenses for lease purchase and exploration. This means that time as well as expense drives the purchase of production components and this will become more critical over the next several decades.

Thus, with improved marine access all of these locations could compete for **new** deepwater components. There is little chance that regional transfers could allow one of the three to dominate the market because the ability of the facilities to expand their experienced skilled labor pool is limited. Should new deepwater opportunities become available with improved marine access, any of the three central Gulf fabrication facilities could bid on and build the required components. But they could not bid on all of them, and taking on one large project would probably mean forgoing bidding on others that would then become available for yards that do not yet have deeper channel access. If total work in the Gulf increased, all of the fabrication yards could expand their operations within their labor limitations and the work would continue to be distributed across the various fabrication ports.

The way fabrication in the Gulf works can be seen by quoting directly from the program for the christening of a drilling deck at Dynamic Industries' topside yard in the Port of Iberia on June 29, 2004.

### Mississippi Canyon 21

Mississippi Canyon [block] 21 platform, known as "SIMBA" is the largest...fixed platform installed in the Gulf of Mexico in the last five years...

### Jacket

The platform jacket supports the weight of the platform deck and drilling rig. It is the largest component of the platform. Only 23 feet of the 690 foot-tall structure will be visible above the surface of the ocean. Each of the jacket's four legs measures 7 feet in diameter at the base and five feet in diameter at the top. It took 87,000 tons of steel to build the jacket...

Gulf Island began construction of the jacket in June of 2003 at their fabrication yard in **Houma**, Louisiana. The construction effort provided jobs for over 800 workers for almost a year...[emphasis added]

## Drilling Decks

... The 1,150-ton deck has three levels: a top deck or drill deck, a cellar deck, and a sub-cellar deck. The drill deck elevation will be 87 feet above the water...

Dynamic Industries began construction of the deck in June of 2003 at their fabrication yard in the **Port of Iberia**, Louisiana [emphasis added]. The construction effort provided an additional 200 jobs for Louisiana workers...

## Installation

In July of 2004, J. Ray McDermott's Marine Division based in **Morgan City**, Louisiana will install the platform in 700 feet of water...[emphasis added]

The point here is that all three of the central Gulf fabrication locations will have some part in the final disposition of the SIMBA production platform. It is quite probable that neither Gulf Island in Houma or Dynamic Industries in the Port of Iberia could have fabricated both of the major sections of the platform in the time period specified by the leaseholder. It should also be noted that "deepwater" in the Gulf generally means deeper than 1,000 feet. SIMBA will be installed in 700 feet of water.

Hypothetically, there are other locations in the central Gulf that based on their potential physical infrastructure could develop to compete with the three existing locations. Lake Charles, with its ship channel is the most logical candidate, but if one of the most experienced fabricators in the world (UniFab) could not get the appropriate labor force together to efficiently pursue a project, it is doubtful that this location will become a fabrication player.

Mention was also made in the comments above of the yard Dynamic Industries has acquired on the Harvey Lock and Canal system. This yard has been used in the past to construct relatively small packets and is currently limited to the east by the Harvey Canal and its Mississippi River Lock with a depth of 12-feet and a width of 75-feet and a height restriction from the expressway overpass. To the west access is limited the by height restrictions from the Lafitte-Larose overpass, the 12-foot draft of the Harvey Canal and the Barataria Bay Waterway and a 70-foot width restriction at the Kerner Bridge along the Barataria Bay Waterway. The physical accessibility severely limits this site, leaving open the question of the need for a vastly expanded skilled labor force.

Thus, the structure of the fabrication sector and limitations on skilled labor will force the fabrication sector to expand in all locations, but at a rate that is more gradual than a purely economic model might suggest. The oil companies know how this system operates and award contracts, certainly based on lower bids, but also on fabrication companies' strengths and reputations. The ability to complete a project in a timely fashion is frequently a major consideration.

As exploration and development moves more and more into the deeper water of the Gulf, some of the most efficient operations with the best reputations will increasingly be unable to bid on production components. Since operations at any one location is limited in the speed at which they can expand, this has the potential to push more and more work to foreign vendors.

The bottom line is:

- Given the Gulf of Mexico has some of the most efficient and experienced offshore fabrication operations in the world;
- And given that the central Gulf has tremendous location advantage over foreign fabricators for deepwater platform components to be used in the Gulf;
- Still much of the fabrication work is going overseas;
- This can only lead to the conclusion that more deepwater channel access to the Gulf is needed for fabrication yards in the Gulf of Mexico in order to compete with foreign vendors and bring new fabrication orders to the Gulf;
- This new activity will increase the total fabrication opportunities in the Gulf
- In the long term this will lead to increased activity for all fabricators contributing significantly to the coastal economy and to NED benefits.

#### References

Gramling, Robert. 1996. *Oil on the Edge: Offshore Development, Conflict, Gridlock*. New York: State University of New York Press.

Minerals Management Service. 2000. Deepwater Gulf of Mexico: America's Emerging Frontier OCS Report MMS 2000-022. Herndon, VA: Minerals Management Service.

**HOUACE ANALYSIS:** Completion of the market analysis is needed to determine the relative positions of the other Gulf Coast ports with fabrication facilities. The market study needs to determine the relative cost savings of other Gulf ports **including adjacent states and** compare to Iberia the costs to determine the relative change in competitiveness from deepening the channel.

D. Design Vessel & Channel Size. Reference is made to the AFB Report page 45, Table C1. A typical Tow Boat has a 90-foot beam and with barges the tow has a 100-foot beam. However, Table C2 indicates that the 20x150 foot channel can handle a maximum beam of 70-feet. The report needs to clarify the size of the design vessel, as it appears the 150-foot channel cannot safely handle the typical towboat. The 90-foot width is greater than the typical high horsepower towboat (50-feet to 60-feet). The benefits are based on serving the vessel fleet, therefore it is important to describe the fleet accurately.

**RESPONSE:** The 100-foot beam criterion was not used to size the channel because it applies to probably only two annual events (moving of large platforms out to the Gulf of Mexico). The 150-foot channel will more than adequately satisfy the criteria associated with the major portion of vessel traffic using the project. The actual percentage of vessel traffic satisfied by the 150-foot channel can be obtained from the Traffic Study prepared for Economics Branch.

Table 2 describes the vessel types along with dimensions. Table 3 summarizes vessel traffic in the GIWW and Freshwater Bayou along with dimensions.

Table 2. Vessel types, Description, and Dimensions.

Type of Vessel	Description	Dimension
Type 1	Self propelled passenger and dry cargo. (Usually crew boats and supply boats)	Supply Boat/Crew Boat Work/Supply Boat/12' 55' x 325' x 13'
Type 2	Self Propelled Tanker (Primary mission is to deliver liquid cargo)	Not Available
Type 3	Tow Boats or Tug Boats (Tugs and Tow boats without barges)	Not Available
Type 4	Non-Self Propelled Tanker (Barges and tow boats moving non-liquid cargo. Including crane barges, etc.)	55' x 220'; 36' x 170'; 60' x 250'; 50' x 100'; 40' x 160'; 72' x 250' x 8'; 100' x 400' x 20'; 35' x 120' x 12'; 100' x 400' x 20'; 90' x 250' x 12'; 50' x 150' x 12'; 90' x 250' x 12'.
Type 5	Non-Self Propelled Tanker (Barges and tow boats moving liquid cargo. Including drilling mud barges)	50' x 250'; 75' x 250'
Type 6	Other (All Rig movements. Rigs and components moved on barges)	Barges

Table 3. Vessel Traffic in GIWW and Freshwater Bayou

Businesses	Usage of GIWW	Usage of Freshwater Bayou	Dimensions
Nabors Offshore Corporation		100%	220' x 50'
Chart Industries/Coastal Fabricators, L.L.C.	70%	30%	325'x50'; 225'x 60'x 14; 36' x 170'; 60'x 60'x 8'; 300'x 55'x 13'
NATCO	70%	30%	100'x50'x12'; 250'x75'x13'; 325'x 55'x 13
Universal Fabricators		100%	250- 3000 Tons Barge (400'x 100'x 20')
Sea Mar Management, Inc.		100%	200'x 56'x 13'
All Points Equipment Co, L.P.	95%	5%	Supply and Tug Boats
Load Master Derreck & Equipment, Inc.	33%	33% (the other 33% through Vermilion Cutoff)	72'x 250'x 8'
Bayou Pipe Coatings	50%	50%	250'x 90'x12'; 150'x 50'x 12'; 250'x 90'x 12; 150x50'x12'
Omega Nachiq, Inc.	90%	10%	Barge (120'x 35'x 12')
Dynamic Industries, Inc.	100%		100'x 400'x 20'; 120'x 35'x 12'; Barge (120'x 35'x 12'); Crew Boat (100'x 400'x 20')

The survey does not include information from businesses located at Intracoastal City and offshore support locations. The crew boat/crew vessel traffic utilizes Freshwater Bayou exclusively. The information contained in Table 3 was used in determining the channel design.

**HQUSACE ANALYSIS:** Completion of full documentation of the fleet size and vessel width and depth clearance requirements for safe navigation in the proposed deeper and wider navigation channel is needed.

E. Benefits from Channel Size Increase (Depth & Width). Reference is made to page 23 of AFB Report. "The recommended channel size is (–) 20 feet deep x 150 feet wide. This channel would provide the necessary minimum depth to accommodate all of the current 9 of 11 users in the Port and will allow for future expansion. This channel size will allow all of the Users surveyed in the economic analysis to bid on future contracts, which will provide the greatest economic benefits." The above text refers to accommodating 9 of 11 users. However, the next sentence in the text refers to all of the users benefiting. A table is needed to clarify which users benefit at which depths.

**RESPONSE:** Concur

**HQUSACE ANALYSIS:** Completion of the table of the benefiting users by depth is needed.

F. Role of Channel Size in Market Share for Topside Fabrication. Reference is made to page 23 of AFB Report. “In the last five years, 80% of the deepwater production platform hulls were built in either Italy or Finland mainly due to limitations posed by channel depths.” Of the \$13 billion construction, approximately \$5 billion in contracts were built in Italy, \$3 billion in contracts were built in Finland and the remaining \$5 billion were built in the Gulf of Mexico. The AFB report should provide information on how much of the new fabrication work would be compatible with the current topside fabrication activity at the Port of Iberia. The report must clearly segregate how much of the new work could be handled at the current channel depth, from that which could only be done by increasing the channel depth from 12-feet to 20-feet.

**RESPONSE:** Concur

**HQUSACE ANALYSIS:** Complete the information to clearly segregate how much of the new work could be handled at the current channel depth, from that which could only be done by increasing the channel depth beyond 12-feet.

G. Clarify Without Project Depth (9-feet or 12-feet). Reference is made to page 14 of AFB Report. “The Acadiana Navigation Channel (ANC) is located within the central region of the study area and provides access from the GIWW, through Vermilion Bay, to the Gulf of Mexico. The ANC, which is extensively used for offshore commercial shipments from the Port of Iberia, provides 9-feet deep by 200-foot wide channel.” Reference is made to page 20 of AFB Report. “Under the future without-project condition, it is anticipated that the Commercial Canal would continue to be maintained as a 13 feet deep by 70-150 feet wide channel by the Port of Iberia and the GIWW and FWB would continue to be Federally maintained at approximately 12 feet deep by 125 feet wide dimensions. Vessel operators have reported problems navigating the entire length of the route.” Based on the above information it is not clear if the without project depth is either 9-feet or 12-feet. Please clarify. Will existing routes to the Gulf accommodate movement of new oil platform fabrications from a deeper Port of Iberia?

**RESPONSE:** The first paragraph on page 14 of the AFB is describing the Acadiana Navigation Channel (ANC) which is an access channel to the Port of Iberia from the Gulf of Mexico through Vermilion Bay, which provides an authorized and maintained (-) 9 feet deep by 200 feet wide channel. This channel is different from the Commercial Canal channel. The Commercial Canal is an extension of the ANC from the GIWW north to the Port of Iberia. The Commercial Canal is authorized and maintained at a (-)13 feet deep by 125 feet wide. The paragraph on page 20 is specifically describing the dimensions of the Commercial Canal.

**HOUSACE ANALYSIS:** The response **has resolved the concern.**

H. Fluid Mud Maintenance at Morgan City & Iberia. Morgan City is currently at 20-feet (feasibility study for 35-feet). The contracts for a top-side fabrication that require a 20-foot channel are going overseas instead of Morgan City because of reliability problems due to “fluff” (fluid mud maintenance). If Morgan City is deepened to 35-feet or fluid mud maintenance is improved at 20-feet, the 20-foot deep Port of Iberia would be in direct competition with Morgan City. First, provide a basis for assuming the Iberia would get a significant portion of the current overseas topside fabrication if the fluid mud that is causing unreliability at Morgan City were removed. Second, also explain if Iberia would also have a substantial maintenance expense from fluid mud.

**RESPONSE:** The New Orleans District’s Hydraulics & Hydrologic Branch has reanalyzed the fluff question as it relates to the Freshwater Bayou Bar Channel (FW Bar). After reevaluating historical dredging events for the FW Bar, LSU documentation of sediment patterns for the area, and the results of a recent Value Engineering Report for Atchafalaya Bar Channel, we have changed the proposed maintenance cycle for FW Bar from every 4 years to every 3 years. The anticipated quantity removed for each maintenance event (2.3 million cubic yards) remains the same. It should be noted that there were many assumptions made during this reevaluation.

**HOUSACE ANALYSIS:** The response **has resolved the concern.**

I. List Depths and Widths of Oil Platforms Fabricated at Iberia. Reference is made to page 22 of AFB Report. “For the deepwater facilities a 20-foot channel depth is required for bids to be acceptable. Also the bottom width must be sufficient to move the fabricated part in a timely fashion. Once the minimum bottom width, 150 feet, was established for the major contractors to consider the bids worthy of further consideration, additional width does not add to benefits, only additional costs.” Provide a listing of the depths and widths of the oil platforms undergoing topside fabrications at the Port of Iberia in both the with-project and without-project condition.

**RESPONSE:** Concur

**HOUSACE ANALYSIS:** Provide a listing of the depths and widths of the oil platforms undergoing topside fabrications at the Port of Iberia in both the with-project and without-project condition.

J. Required Width of Bypass Channel. Reference is made to page 23 of AFB Report. “The by-pass channel structures will be operated at specific times, when the existing locks cannot facilitate the needs of deep draft and wide vessels. The current locks at Freshwater Bayou are only 84 feet wide.” The dimensions and costs of modifying the by-pass channel are needed. Clarify if the planned width of the Bypass Channel can accommodate the expected new induced business in fabricating the topsides of oil platforms.

**RESPONSE:** Concur. The cost for dredging the by-pass channel to the (-)20.0 x 150-foot criteria is approximately \$1.7 million. The cost for two (2) new 200-foot barge floodgates is approximately \$24.1 million. The total cost is \$25.8 million. The planned width can accommodate the expected new induced business in fabricating the topsides of oil platforms. The By-Pass channel is required because the vessels are too large to come thru the lock. However, the proposed channel will accommodate the anticipated new induced business.

**HQSACE ANALYSIS:** The response **has resolved the concern.**

K. Tow Boat Drafts With-Project & Without Project Condition. Reference is made to page 33 of AFB Report. “The deeper channel will also allow for the use of larger deeper draft tugboats that will increase the efficiency of the process of moving the rig components. The use of existing stock of barges and the more efficient tugboats will give the fabrication firms along the channel somewhat of a competitive advantage for winning contracts from foreign competitors.” Provide a listing of the towboats by draft in the with-project and without-project condition.

**RESPONSE:** Concur.

**HQSACE ANALYSIS:** Provide a listing of the towboats by draft in the with-project and without-project condition.

L. Comparative Cost Foreign Ports, Gulf Ports & Iberia. Reference is made to page 33 of AFB Report. “They (Oil Exploration Companies) have specific criteria for choosing firms to fabricate the components they need. The firms in the study area meet all these requirements except channel depth. This lack of depth excludes the area manufactures from even bidding on contract for the larger structures.” Also on page 33, “The major competitors for the existing firms in the U.S. are foreign entities that are subsidized by their governments.” Since the foreign companies are subsidized the channel deepening may be insufficient to overcome the cost advantage and the subsidy may be increased to offset cost savings due to channel deepening. Provide an estimate of the comparative cost structure of the Gulf and Iberia firms as compared to the overseas firms. Ask the fabricators why they think they will be able to compete in the face of the direct fabrication subsidies of foreign governments. If cost data are not available provide an estimate of the transport savings.

**RESPONSE:** Concur. The currently proposed market study will provide these data.

**HQSACE ANALYSIS:** Provide an estimate of the comparative cost structure of the Gulf and Iberia firms as compared to the overseas firms. Note, the channel depth is not required for the fabrication process, but with delivery from the plant to market. Separating the suppliers into two categories, fabrication and delivery, could be revealing.

Responses present convincingly the competitive advantage of south Louisiana fabricators in labor quality and quantity, when comparison is made with other Louisiana locations, and when management is unchanged. Not discussed is the comparative management advantage these fabricators may have when that is specifically compared to foreign fabricators. **The foreign topside fabricator locations include European, Asian, and Mexico.**

These rigs are unique and highly designed. Hence the scrutiny purchasers give to fabricator capabilities. The management advantages of south Louisiana fabricators compared to foreign fabricators could be even more important than the labor force advantages, if any. What likely is superior is inter- firm management, or coordination, that is, coordination between exploration firm management and fabricating firm management. Time, space, and communication are frictions that can be substantially overcome by physical proximity and a common language and culture. Monitoring, inspections, delivery and explanation of changed specifications, materials and techniques decisions, supervision of completed parts delivery, and everyday communication are eased by proximity and language. What are the effects of these potential inter-firm management efficiencies on fabrication costs, delivery costs, and total delivered cost?

M. Comparison of Origin to Destination Costs. Reference is made to page 34 of the NPWI Draft Report of January 2004. Present shipments are made by barge to New Orleans and then by Ocean ship. In the with-project condition the report indicates that a small ocean ship can come in at 20-feet and provide direct service at a lower cost. If a large ocean ship is used at New Orleans the cost comparison may not be favorable to the small ship. With a 20-foot depth the small ocean ship needs clearance. Therefore, ocean ships that draft around 16-feet need to be identified. A with-project and without-project cost comparison between the origin and destination is needed.

**RESPONSE:** Concur. This transportation cost savings study is underway.

**HQUSACE ANALYSIS:** Provide a with-project and without-project cost comparison between the origin and destination.

The report points out a required ocean ship underkeel clearance of four feet as needed. The basis for the application of the clearance standards is needed. Factors such as hard or soft bottom and tide need to be discussed.

N. Price Level & Discount Rate Update. Reference is made to page 35 of the AFB Report. “Both the incremental benefits and costs streams were discounted at the current federal interest rate of 5 7/8%.” Average annual costs and benefits should reflect the current discount rate of 5 5/8% and the current price levels. The report used a discount rate of 5 7/8% and did not provide a price level. Reference is made to Economic Guidance Memorandum #04-02 – Federal Discount Rate FY 2004. Also, reference is made to ER 1105-2-100 dated 22 April 2000 page D-5, Paragraph d. Evaluation

Procedure: General “(2) All NED costs shall be based on current costs adjusted by the project discount rate to the beginning of the period of analysis as defined in paragraph D-6 (Page D-30). Compute all costs at a constant price level and at the same price level as used for the computation of benefits. Current costs shall be based on the price level at the time of the analysis.” The District needs to furnish the economic justification information (benefits, costs, net benefits and BCR to reflect current price levels and FY 04 interest rates.

**RESPONSE:** Concur.

**HQUSACE ANALYSIS:** Furnish the economic justification information (benefits, costs, net benefits and BCR to reflect current price levels and interest rates.

### 3. FORMULATIONS AND COST-SHARING

A. Incremental Analysis Verification. The AFB materials are not clear with respect to incremental analysis of various channel depths and widths. As example, reference is made to Table E-9. This table shows the benefits from the smaller plan at \$4.76 million (18 X 125) as greater than the larger scale plan \$4.41 million (18 X 135). Other materials tied to table E-9 explain that certain benefits are “proportional” to depth and that “minimal benefits are assumed to be 25% of the 20x150 channel size. The incremental analysis of various channel alternatives needs to be verified and strengthened. Follow the appropriate steps in ER 1105-2-100 in measuring transportation costs savings and change in origin benefits should help considerably in ensuring appropriate incremental analyses of alternatives.

**RESPONSE:** Concur.

**HQUSACE ANALYSIS:** Provide the verified and strengthened incremental analysis of various channel alternatives.

B. Beneficial Use of Dredged Material. In several places the report materials discuss beneficial use of dredged material and how the proposed project is ecologically beneficial. The term “beneficial use” is generally associated with the incremental costs of making ecologically beneficial use of dredged material in accordance with Section 204 of WRDA 92. The district needs to show that the least cost-environmentally acceptable means of disposing of dredged material has been identified. If there are incremental costs associated with disposing of the materials in order to obtain NER benefits, this needs to be shown and likewise justified. This could necessitate an allocation of costs between the NED navigation purpose and the NER purpose of beneficial use in accordance with Sections 101 and 103 of WRDA 86, as amended. In so doing the report would need to document beneficial use of dredged material outputs to demonstrate that that the incremental costs are reasonable in relation to the ecological benefits. Also, the report would need to separate and identify the costs for GNF, LERR and beneficial use of dredged material.

(1) The report needs to document how the \$1,935,967 in OMRRR cost was determined, so that the general navigation feature maintenance cost and beneficial use maintenance cost, if any, can be isolated.

(2) Reference is made to Section 204 of the Water Resources Development Act of 1992, as amended, for beneficial uses of dredged material. The incremental cost for the beneficial use of dredged material is cost shared 75% Federal and 25% non-Federal for initial construction with non-Federal interest providing LERR's and 100-percent of OMRRR.

**RESPONSE:** Given the location of the study area, much effort was spent in the beginning of the study to identify disposal opportunities with an interagency dredge material disposal team consisting of representatives from Vermilion Parish, U.S. Army Corps of Engineers, the sponsor, U.S. Fish and Wildlife Service, National Marine Fisheries Service, Environmental Protection Agency, Louisiana Department of Wildlife and Fisheries, Louisiana Department of Natural Resources and Natural Resource Conservation Service. The interior coastal marshes within the project area are relatively stable and offer limited possibilities for placing disposal material without damaging existing marsh and impounding shallow open water areas to comply with the Coastal Zone Management Act (CZMA) and the Environmental Operating Principles and the sequence of mitigation (avoid and minimize, rectify, compensate) outlined in NEPA. The project was discussed in detail with the team and then ideas were discussed and evaluated by the team. The team coordinated with the members of the Louisiana Coastal Area (LCA) team to ensure consistency with their efforts to restore coastal ecosystems in Louisiana. The disposal options identified in the study process were as follows: Option 1: placing dredged material along the existing channel's bank 'ledge' and placing rock for fronting protection, Option 2: placing dredge material on existing easements adjacent to the bank of the pertinent waterways, and Option 3: placing dredged material along the existing channel's bank 'ledge' without fronting protection, except the placement of rock required for the stability berm. The bank 'ledge' is the relatively flat area of channel bank located a few feet below the water line. These 'ledges' are created by wave action eroding the weak soils composing the bank, thus enlarging the top width of the channel. Placing dredged material along this 'ledge' will no doubt provide a readily erodible supply of material available to refill the newly dredged channel. We estimate that about 30% of this unconsolidated material will be lost within the first year after project construction to the erosive forces of wave action from vessel traffic; almost all of this material will be re-deposited into the channel. We estimate that within 5 years approximately 75% of the material placed on this 'ledge' will be repositioned into the channel, filling the bottom with sufficient material to require a dredging cycle to restore the channel's original design template. The material, which erodes back into the channel, cannot be placed back on the ledge. The material has a low strength now and after washing it back into the channel with wave action, it will have almost no strength and will require hydraulic dredging to remove it from the channel. If this alternative is adopted as part of the project, we estimate that these channel reaches will require dredging on average every 5 years. In addition, most of this loose material can be eroded by a single intense storm event, as is the case along coastal beaches such as Grand Isle,

where millions of cubic yards of bare beach soils both above and below the water line have been removed by the intense wave action of a single hurricane.

Option 1 has an initial dredging cost of \$128,912,700. Option 2 has an initial dredging cost of \$139,000,091, which is \$10 million more than the first option based on dredging and mitigation only. This option does not include the cost for additional easements required for disposal. The cost of maintaining the channels for Options 1 and 2 are the same. Option 3 has an initial dredging cost of \$95,897,000, which is less than Options 1 and 2, but will require a substantial increase in maintenance dredging and mitigation. Based on technical knowledge and experience, we did not proceed with calculating these costs because it was obvious that the cost would be far excessive when compared to Options 1 and 2.

A conclusion was made that Option 1, reclaiming the banklines along the existing channels coupled with creating some marsh in shallow open water areas would be the best acceptable method of dredge material disposal. Thus, the Recommended Plan is the least cost-environmentally acceptable means of disposing of dredged material and there are no incremental costs associated with this plan.

- (1) The OMRR&R cost was derived from the maintenance costs of dredging the Commercial Canal, GIWW, Freshwater Bayou Interior, Freshwater Bayou Bar Channel, operation costs of the By-Pass Channel Floodgate, environmental monitoring and report preparation over the 50-year project life. The average annual OMRR&R is \$2,613,574.
- (2) There is no incremental cost for beneficial use of dredged material.

**HOUSACE ANALYSIS:** The HQ review team is concerned that the district has not clearly supported the proposed disposal plan as the least cost, environmentally acceptable base plan for the navigation project. Each of the alternative disposal plans presented are basically variations on the same general plan for disposal. A DMMP is required to identify the base plan to accomplish disposal of dredged material in the least costly manner (para. E-15.a.(3) of ER 1105-2-100). Cost estimates for environmentally acceptable upland and ocean disposal for the Freshwater Bayou and other project reaches need to be presented to demonstrate that the least cost environmentally acceptable plan has been selected in order to assure that appropriate cost-sharing is being applied.

C. Local Service Facilities and Cost-Sharing. Associated costs for local service facilities need to be included in the project cost estimate. These are non-Federal investments needed to accomplish the goals of the project, such as single user access channel deepening, berth deepening and bulkheads and other water and land/water interface facilities and structures. Additionally some of the business expansion expenses mentioned in the report need to be included in the project analyses, as either local service facilities, or as part of the project benefit estimates if self liquidating. For associated costs that are self liquidating and included in benefit analysis they need not be included in Total Project Costs, but could affect the benefit to cost analysis. Currently, only

bulkhead modifications are shown to be local service facilities. However, other items as noted above, particularly dredging of berthing areas may be needed. Cost sharing tables need to separately show construction activities that are cost-shared GNF, creditable LERR costs, and local service facilities which are 100% non-Federal.

**RESPONSE:** Concur. Based on the current information, we do not think that a deepening berthing area is required. However, if it is determined at completion of the economic analysis, that the keeled hulled vessels requiring deeper draft would utilize the Port more, then we will have to reinvestigate the berthing and bulkheads requirements of the Port and make changes accordingly. The navigation servitude will be utilized. Therefore, all pipeline relocations will be non-compensable and thus removals.

#### **IBERIA AFB REPORT 62**

<b><u>Item</u></b>	<b><u>Federal</u></b>	<b><u>Non-Fed</u></b>	<b><u>Total</u></b>
<b>LERR (for GNF)</b>			
Lands, easements, and rights-of-way	\$0	\$1,628,000	\$1,628,000
Relocations	\$0	\$0	\$0
<b>TOTAL LERR</b>	<b>\$0</b>	<b>\$1,628,000</b>	<b>\$1,628,000</b>
<b>GNF</b>			
Lands and Damages	\$67,313	\$0	\$67,313
Dredging, Commercial Canal	\$11,048,760	\$0	\$11,048,760
Dredging, GIWW	\$33,290,928	\$0	\$33,290,928
Dredging Freshwater Bayou Interior	\$67,811,225	\$0	\$67,811,225
Dredging Freshwater Bayou Bar & By-Pass	\$13,821,788	\$0	\$13,821,788
By-Pass Floodgates	\$21,269,527	\$0	\$21,269,527
E&D	\$1,900,000	\$0	\$1,900,000
S&A	\$1,690,000	\$0	\$1,690,000
Subtotal	\$150,899,541	\$0	\$150,899,541
Initial 10% Cash	-\$15,089,954	\$15,089,954	\$0
Second 10% minus LERR credit	-\$13,461,954	\$13,461,954	\$0
<b>TOTAL GNF COST</b>	<b>\$122,347,633</b>	<b>\$28,551,908</b>	<b>\$150,899,541</b>
<b>Local Service Facilities - Bulkhead Replacement</b> (includes LERR for LSF)	<b>\$0</b>	<b>\$17,000,072</b>	<b>\$17,000,072</b>
<b>Removals</b> (strictly navigation servitude)	<b>\$0</b>	<b>\$24,111,323</b>	<b>\$24,111,323</b>
<b>TOTAL COST</b>	<b>\$122,347,633</b>	<b>\$71,291,303</b>	<b>\$193,638,936</b>

**HQUSACE ANALYSIS:** Document that interest during construction has been included in the analysis. Also, the District must determine what is a relocation as a matter of law and what is a removal. The response statement that MVN views all of these as relocations is not appropriate. An Attorneys Opinions of Compensability must be prepared for each of these utilities or facilities. Note, a removal is not a LERRD.

D. Louisiana Coastal Area Consistency. Is this project consistent with the LCA and other ongoing similar efforts as it is alleged that channel deepening is responsible for the demise of wetlands in studies pertaining to the Mississippi River Gulf Outlet? The Report suggests that there will be no net loss of wetlands but there is no quantification of wetlands lost due to deepening the channel.

**RESPONSE:** Quantifications of the wetlands lost is included in the latest version of the EIS. LCA was coordinated with and we are consistent.

**HQUSACE ANALYSIS:** The response **has resolved the concern.**

E. Differential Impact of Alternatives on Environment. Do the environmental/cultural effects of the different plan alternatives vary considerably or are they basically the same? In other words, how can the alternatives be evaluated without knowing the differences in environmental/cultural effects, which have cost implications that affect the benefit to cost ratio (BCR)?

**RESPONSE:** The majority of the environmental impacts are positive for all of the alternatives analyzed. The negative impacts resulting from upland confined disposal is the same for all of the analyzed alternatives with the exception of the No-Action Alternative.

**HQUSACE ANALYSIS:** The response **has resolved the concern.**

F. Disposal & Contaminated Sediments. It appears that there may be some contaminated sediments. What is the proposal for disposing of these sediments?

**RESPONSE:** The phase I HTRW has indicated nothing abnormal. The majority of the material excavated from the actual port would be disposed of within the upland confined disposal site identified in the Main Report and the EIS.

**HQUSACE ANALYSIS:** Documentation is needed in the final document.

G. Analysis for Relocations or Removals. The possible number of pipelines to be relocated is high - 31 pipelines, 2 submarine pipelines, and a sewer lift. What analysis has been done to determine whether these are relocations or removals?

**RESPONSE:** The A-E for the local sponsor was tasked with contacting the pipeline and facility owners and requesting current ownership information. In most cases, the owners were responsive and provided the requested data, which provides the basis of the relocation information provided for your review. The New Orleans District's criteria dictates that the pipelines affected by the proposed dredging must be 8 feet lower than the design depth for the channels, which, including 1 foot advanced maintenance, is (-)22.0 NAVD88. Thus, the top of pipes must not be above el. (-)30.0 NAVD88. The pipelines in question must be removed and reinstalled according to this criterion. Historically, MVN

has classified such work as "relocations". If the pipeline is no longer in service, then the pipeline would be removed if so decided by the owner. However, please note, the removal of the pipeline would still be considered a "relocation".

**HQSACE ANALYSIS:** The District must determine what is a relocation as a matter of law and what is a removal. The response statement that MVN views all of these as relocations is not appropriate. An Attorneys Opinions of Compensability must be prepared for each of these utilities or facilities. Note, a removal is not a LERRD.

H. Cultural Resources Costs. Approximately 33 cultural resource sites have been identified and additional significant sites will likely be found. Although these areas have not been surveyed yet, what are the costs and schedule implications of these sites for the tentative recommended plan?

**RESPONSE:** These 33 cultural resources were identified in the study area as part of background research efforts and a 10 % sample survey of the project area. This work was done in order to prepare a predictive model for site occurrence. This predictive model will guide the investigation of the remaining 90% of the project area during the PED phase of the project. The majority of the known 33 cultural resources sites will not be directly impacted by proposed construction and will require no further consideration. However, it can be assumed that additional cultural resources will be identified during the PED phase of the project. The District is working closely with the LA SHPO in all phases of this work. Section 106 consultation is ongoing and will be concluded prior to construction.

**HQSACE ANALYSIS:** The district should explain all that has been done and all that remains to complete before construction in the EIS. This should be covered as a significant resource in the Affected Environment and the Environmental Consequences sections as well as in the legal compliance discussions for the [Native American Graves Protection and Repatriation Act](#), the [Historic Preservation Acts](#) and EO 13007 - Indian Sacred Sites. Documentation is needed in the final document.

#### 4. Counsel Concerns.

A. Sponsor Agreement for Project Lands. The local sponsor for the study the Louisiana Department of Transportation and Development (LA-DOTD) will enter into a cooperative endeavor agreement with the Port of Iberia for use of 8 miles of the project land owned by the Port. What type of agreement is this and is it sufficient for the real estate needs for the project?

**RESPONSE:** The cooperative endeavor agreement to be entered into by the local sponsor the Louisiana Department of Transportation and Development and the Port of Iberia for project lands owned by the Port of Iberia will be sufficient for project purposes as it will provide the local sponsor all rights necessary to construct, operate, maintain, repair, replace and rehabilitate that portion of the project and will be supplemented by real estate acquisitions by the local sponsor. A draft of the cooperative endeavor

agreement will be forwarded with the draft project cooperation agreement (PCA) and executed prior to the execution of the PCA.

**HQUSACE ANALYSIS:** The District should provide a copy of the cooperative agreement with the Feasibility Report and explain why such an agreement is sufficient for the provision of LER. The District should also explain why an actual interest in land cannot be provided and what it means by the statement that such rights in this cooperative agreement will be supplemented by real estate acquisitions by the local sponsor.

B. Use of Navigation Servitude. Explain in greater detail the use of the navigation servitude in this project.

**RESPONSE:** The navigation servitude will be utilized in tidal areas to areas below the high water mark and in non-tidal areas to all lands within the bed and banks of the Commercial Canal that lie below the ordinary high water mark. Many project lands required along the Gulf Intracoastal Waterway and Freshwater Bayou portions of the project are available through existing rights-of-way owned by the United States of America for channel deepening and some disposal areas.

**HQUSACE ANALYSIS:** The response **has resolved the concern.**

C. Non-standard Disposal Easement. Please include a copy of the non-standard perpetual dredged material disposal easement proposed for this project and provide the rationale for use of a non-standard estate.

**RESPONSE:** Concur. A non-standard perpetual dredged material disposal easement estate is being used for this project. It is attached as exhibit A to the Real Estate Plan.

**HQUSACE ANALYSIS:** The response **has resolved the concern.**

5. Environmental Policy Compliance Review. Since it was revealed during the teleconference on 9 June 2004 that the submitted package has not been Independently Technically Reviewed (ITR) the environmental comments are more detailed and numerous than usual for this stage of the study. The first group of comments is from the Environmental Impact Statement Working Draft and the second group of comments is on the Alternative Formulation Briefing Report.

A. Environmental Impact Statement Working Draft. Please note that, NEPA is a procedural statute and several of the following comments are procedural

General Comments: The format of an EIS that is not integrated with the main planning report must follow the format in 40 CFR 1502.10—1502.18. For example:

(1) COVER SHEET with abstract consistent with 40 CFR 1502.11 must be added.

(2) **SUMMARY:** In addition to the Areas of Unresolved Controversy, 40 CFR 1502.12 requires a summary of Resolved Issues. Discussions of Resolved Issues should include the nature of the concern and what has been/will be done to reach resolution. Discussions of Unresolved Issues should include the nature of the concern and what has been attempted to reach resolution and what is proposed to be done to achieve resolution. The SUMMARY is a good place to list related NEPA documents and similar studies by the Corps or others.

**RESPONSE:** Concur. A Cover Sheet with abstract and a summary of the resolved issues will be included as construction of the document is ongoing.

**HQSACE ANALYSIS:** Documentation is needed in the final document.

#### SPECIFIC COMMENTS:

(1) Section 1.1.1. Concisely state the total length of the proposed project and the expected volumes of material to be disposed.

**RESPONSE:** Concur.

**HQSACE ANALYSIS:** Documentation is needed in the final document.

(2) Section 1.1.2. NED analyses must be conducted to determine the best alternative among those being considered; any size constraint imposed by the local sponsor must be considered part of a Locally Preferred Plan.

**RESPONSE:** Concur.

**HQSACE ANALYSIS:** Documentation is needed in the final document.

(3) Section 1.1.5. Use the word “jeopardy” in the context of endangered species very judiciously. “Jeopardy” means there is concern that the project may have dire impacts on the continued existence of the species. The Corps does not determine whether an action would jeopardize the continued existence of a species. The Endangered Species Act gives jurisdiction for that determination to the USFWS and NMFS. The Corps prepares a BA that presents our assessment of whether a project alternative may affect a species or not. USFWS and NMFS may or may not concur with that assessment. Rewrite this to correctly indicate the jurisdictional roles of the respective agencies.

**RESPONSE:** Concur

**HQSACE ANALYSIS:** Documentation is needed in the final document.

(4) Sections 1.1.5. – 1.1.11. These sections initiate descriptions of project compliance with various environmental statutes. Add a section titled “Relationship to Environmental Protection Laws and Requirements”. Include Sections 1.1.5. – 1.1.11 in the new section and describe what has been and what remains to do to comply with each law that has substantial bearing on the formulation and selection of a recommended plan. For example include: Endangered Species Act, NEPA, Clean Water Act (including 404, 401, etc.), National Historic Preservation Act, Native American Graves Protection and Repatriation Act, Coastal Zone Management Act, Comprehensive Environmental Response, Compensation and Liability Act, Fish and Wildlife Coordination Act, Magnuson-Stevens Fishery Conservation and Management Act, Marine Protection, Research and Sanctuaries Act, E.O. 11988, E.O. 11990, E.O. 12898, and any state laws that are applicable. The full list of laws and compliance status may be presented in a table, but the laws with special bearing on the project should be discussed.

**RESPONSE:** Concur.

**HQUSACE ANALYSIS:** Documentation is needed in the final document.

(5) Section 1.1.8. Anything done for mitigation must be done with funds for this project. After Reasonable & Prudent Measures for protected species and mitigation requirements are accomplished it is not likely much of this project will remain to be done with Section 204 of WRDA 92. After Reasonable & Prudent Measures and mitigation requirements determined specify what may be done under the separate §204 authority.

**RESPONSE:** Concur. The project is self-mitigating. I agree that nothing is to be done with Section 204 of WRDA 92.

**HQUSACE ANALYSIS:** The response **has resolved the concern.**

(6) Section 1.1.9. and Section 1.1.11. According to ER 1105-2-100, C-6 the district must prepare this report in such a way that it will qualify for Section 404(r) exemption from Section 401 of the Clean Water Act and qualify for the Section 401 State Water Quality certification. The district must make it clear at the earliest practical time (now) that it intends to qualify and apply for Section 404(r) exemption. The district should also make it clear that it intends to work very closely with the state water quality office to be sure the project meets state WQ requirements.

**RESPONSE:** Concur. The 404 long form has already been completed and is included in the Environmental Appendix.

**HQUSACE ANALYSIS:** Documentation is needed in the final document.

(7) Section 1.3. Environmental Commitments constitute the project mitigation, which must be fully described to comply with 40 CFR 1502.14(f) and Appendix C of ER 1105-2-100. This section must include a description of efforts to avoid and minimize adverse effects on significant resources as well as efforts to compensate for significant effects that could not be avoided. Efforts to avoid and minimize would include any difference from the optimum plan based on engineering and economic considerations to the present environmentally acceptable plan. This section should include a timetable for when various separable mitigation components will be implemented.

**RESPONSE:** The study was formulated in a manner that concluded that the recommended plan is the locally preferred plan, which are the optimum plan of the alternatives evaluated and the environmentally acceptable plan.

**HQSACE ANALYSIS:** The CFR requires that the EIS include a specific discussion of features added, deleted, or modified to reduce adverse effects to the environment. This is part of alternative development but it must be specifically addressed. Describe mitigation features we did as part of design and those required by other agencies. ER 200-2-1 also requires an accounting of the measures applied to reduce adverse effects.

(8) Section 3.2: To comply with 40 CFR 1502.13, this section must concisely state the most basic underlying objective of the proposed project and the need for the project. Consider “achieve a channel depth and width sufficient to allow safe, efficient transportation of offshore-drilling rigs (provide a maximum size) and related equipment from the prefabrication plants in New Iberia to the Gulf of Mexico” as the basic purpose. As a need, “In 19xx 100% of the prefabricated offshore-drilling rigs destined for the Gulf of Mexico oil fields was produced by fabricators in the U.S., because of the demand for prefabricated rigs too large to transport on existing waterways 80% of these rigs are now manufactured outside the U.S. This represents a loss of several billion dollars per year from the U.S. economy. Completion of the proposed project would allow existing rig fabricators to remain competitive in the world market.”

**RESPONSE:** Concur.

**HQSACE ANALYSIS:** Documentation is needed in the final document.

(9) Section 4 must discuss all reasonable alternatives. In addition to those considered in detail and those eliminated 40 CFR 1502.14(c) requires consideration of alternatives not in CoE jurisdiction. If no other agency has authority to provide a complete or partial solution, the EIS should so state.

**RESPONSE:** I will work on clarifying this issue.

**HQSACE ANALYSIS:** Documentation is needed in the final document.

(10) Section 4.1. The Future No Action Condition (FNAC) discussion is not adequate. The FNAC is the basis for all comparisons. It must be well developed and

supported by projections of other Federal agencies, state and local governments, planning organizations, commercial/industrial projections, etc. This discussion must include consideration of the same significant resources as considered for all other alternatives, including those listed in Section 122 of the Rivers and Harbors Act of 1970. It is extremely unlikely that nothing will be done by anyone unless the Corps builds a project.

**RESPONSE:** I will work with economics to elaborate on the human environment for the Future No Action Condition.

**HQSACE ANALYSIS:** Documentation is needed in the final document.

(11) Section 4.2. Most of these alternatives must be eliminated – NOT carried forward for detailed analysis. Alternatives may be eliminated through use of successively more detailed evaluation. Obvious technical considerations eliminate the cut through the Bays complex. With a little more analysis, including basic economic analysis, all canalization alternatives except the 20x150 is eliminated. No other alternative is even close to economically justified, the B/Cs are all well below unity, and average annual net benefits are negative by over \$4.6M. Only No Action and the 20x150 Alternatives should be considered in detail.

**RESPONSE:** As the economics analysis is not complete, I do not believe it is wise to eliminate any of the alternative analysis from the document at this time.

**HQSACE ANALYSIS:** This action must be completed and the results incorporated in the draft report before it is circulated of review. Documentation is needed in the final document.

(12) Section 4.2.2. third & fourth sentences. If bankline stabilization, *etc.* are being considered for inclusion in the project, these sentences should be in the opportunities discussion and incorporated as components of the 20x150 Channelization Alternative.

**RESPONSE:** Concur. Bankline stabilization occurs as a component of all of the alternatives considered except for the Future No Action. This is explained in the document. I'll add some verbiage in the opportunities section as suggested.

**HQSACE ANALYSIS:** This action must be completed and the results incorporated in the draft report before it is circulated of review. Documentation is needed in the final document.

(13) Section 4.3. Eliminate discussion of alternatives that cannot be economically justified. From the information presented only the Future No Action and 20x150 Channelization Alternatives should be considered in detail.

**RESPONSE:** As the economics analysis is not complete, I do not believe it is wise to eliminate any of the alternative analysis from the document at this time.

**HQUSACE ANALYSIS:** See 5.A. Specific Comments (11). Documentation is needed in the final document.

(14) Table EIS-2. Drop the eliminated alternatives and duplication of columns 1 and 3. The alternative name must include both the width and depth of the cut or there are two alternatives with the same name.

**RESPONSE:** I'll clean up the table but do not feel it is wise to get rid of all of the alternatives until the economics analysis is complete.

**HQUSACE ANALYSIS:** See 5.A. Specific Comments (11). Documentation is needed in the final document.

(15) Table EIS-3 and EIS-4. Drop the eliminated alternatives.

**RESPONSE:** As the economics analysis is not complete, I do not believe it is wise to eliminate any of the alternative analysis from the document at this time.

**HQUSACE ANALYSIS:** See 5.A. Specific Comments (11). Documentation is needed in the final document.

(16) Table EIS-5. Present this table in Section 4.2 to show why all but 20x150 is eliminated from detailed consideration.

**RESPONSE:** I'll move the table but leave the alternatives for now.

**HQUSACE ANALYSIS:** See 5.A. Specific Comments (11). Documentation is needed in the final document.

(17) Section 5. The NEPA process must consider the potential effects of the final array of alternatives on significant resources. A resource may be considered significant because a law says it is, for scientific reasons, local or institutional status, etc., see 40 CFR 1508.27. This information is presented in EIS Table 7. The significance of alternative effects on these resources must also be determined as part of the NEPA process, 40 CFR 1502.1. 40 CFR 1502.2 is clear that an EIS presents in detail only those resources likely to be significantly impacted by an alternative. This EIS addresses too many resources in detail that are not likely to be significantly effected, and where consideration of these effects will have no bearing on which alternative is selected. Address only the resources that are likely to be significantly effected and that consideration of these effects will have bearing on which alternative is selected. Discuss the resources that will not be significantly impacted in an appendix and incorporate the appendix into the EIS by reference.

**RESPONSE:** Concur.

**HQSACE ANALYSIS:** Documentation is needed in the final document.

(18) Section 5. This section is not consistent with the EIS format in 40 CFR 1502.10 and required by ER 200-2-2, ¶13. Separate the AFFECTED ENVIRONMENT discussions from the ENVIRONMENTAL EFFECTS.

**RESPONSE:** I'll look into this formatting option.

**HQSACE ANALYSIS:** The format of a stand-alone or combined EIS is not optional - there is no reason to consider deviation from the prescribed format.

(19) Section 5. Delete discussions of alternatives that are not technically sound, economically justifiable, or required by statute.

**RESPONSE:** As the economics analysis is not complete, I do not believe it is wise to eliminate any of the alternative analysis from the document at this time.

**HQSACE ANALYSIS:** See 5.A. Specific Comments (11). Documentation is needed in the final document.

(20) Section 5. This preliminary DEIS is supposed to be 65% complete and ready to support selection of a recommended alternative. However, there is almost no quantified information in this section. Add acres, dollars, index values, etc. for all resources.

**RESPONSE:** Concur. Additional information has been included in the preliminary DEIS since the AFB report was prepared and majority of this info is now in the document.

**HQSACE ANALYSIS:** Documentation is needed in the final document.

(21) Section 5. Discuss how changes in one resource may cause significant effects in other resources. Interrelations of resources should be discussed, e.g., significant population growth or decreases would likely impact local services and infrastructure loads, local revenues, property values, etc. Discussions during the June 9<sup>th</sup> teleconference indicated community cohesion and relationships with nearby towns are very important in this area and impacts to these relationships could be significant in the Future No Action condition. Discuss these links commensurate with the significance of the impact and supporting data. Differences in Energy Requirements (see §1502.16. (e)) Among the alternatives could be significant considering the alternate haul distances.

**RESPONSE:** I will work with economics on developing the Human Environment aspect of the significant resources.

**HQSACE ANALYSIS:** Documentation is needed in the final document.

(22) Section 5.2.15. In this section, and all others, be consistent with the use or non-use of Latin and common names. In some sections both Latin and common names are used, in other sections only the common or Latin names are used. Use of both the Latin and common names the first time a species is mentioned and only the common name thereafter.

**RESPONSE:** Concur. The preliminary draft latest document has this problem corrected.

**HQSACE ANALYSIS:** Documentation is needed in the final document.

(23) Section 5.2.16. It is unclear if the oyster bed situation in Weeks Bay will change in the future with the 20x150 Alternative or NFAC. Succinctly state the future condition of this resource for each alternative and how the alternative will significantly impact this resource.

**RESPONSE:** Concur.

**HQSACE ANALYSIS:** Documentation is needed in the final document.

(24) Section 5.2.16.4. Correct the tentatively recommended alternative. Throughout the rest of the Feasibility Report and DEIS the 20x150 Alternative is the recommended alternative.

**RESPONSE:** Concur.

**HQSACE ANALYSIS:** Documentation is needed in the final document.

(25) Section 5.2.17. Add quantified information. Provide how many acres and an index of how good are these acres in all future conditions.

**RESPONSE:** Concur.

**HQSACE ANALYSIS:** Documentation is needed in the final document.

(26) Section 5.2.20. Unless a species or critical habitat is “Known” to occur in the project impact area it is probably not relevant to this EIS, or the alternative selection process. If a species or critical habitat is “Known” only in the Gulf outside the project impact area it requires less discussion in the EIS (see §1502.2(b)). State where each of these species are “Known” to be more specifically relative to the project impact area. If the BA did not have a “may affect” assessment, the species should get little discussion in the EIS beyond a reference to the BA and/or BO. Discuss the impact and likelihood of impact of each alternative on the protected species commensurate with the impact.

**RESPONSE:** The agencies would like to see more detail in the document than what is being suggested in this comment.

**HQUSACE ANALYSIS:** The EIS should contain only those resources that have a bearing on formulation and selection. If there are no specific Conservation Recommendations or Reasonable & Prudent Measures for a species, it probably has no relevance to the project formulation. The District Response to Comment 5.B. (3) confirms the lack of influence to formulation stating there are no T/S likely to be adversely effected, as such the EIS should not dwell on the topic. The additional technical information other agencies want should be included in an appendix, if anywhere.

(27) Section 5.2.22.3. states, “None of the alternatives (including No Action) will have permanent negative impacts to the project with respect to recreation”. Unless there are some significant short-term impacts, recreation should not be addressed in the EIS.

**RESPONSE:** CEMVD always addresses “Recreation” in EIS’s regardless of impacts due to the sensitive nature of this subject as it relates to the area.

**HQUSACE ANALYSIS:** The discussion of this topic in the EIS should explain that Recreation Resources is included in the EIS because of its local-regional status (see 5.A. Specific Comments (17)). Documentation is needed in the final document.

(28) Section 5.2.23. Interesting reading, but most of this belongs in another report. State the known and suspected resources, and describe the significant impacts of the alternatives. Since this is still AFB-level the results of testing are not required, but the results and suggested mitigation must be included in the DEIS that is circulated.

**RESPONSE:** Concur.

**HQUSACE ANALYSIS:** Documentation is needed in the final document.

(29) Section 5.3. Cumulative Effects are not discussed according to CEQ guidelines. Nothing specifically requires use of the CEQ handbook *Considering Cumulative Effects Under the NEPA*, published in 1997. However, since 1997 the CEQ handbook has been the standard used in nearly all NEPA litigation involving cumulative effects. Given, the issues described in the Pre-DEIS, this is not a discussion to consider shortcutting. At least incorporate discussions of all the past, present and reasonably foreseeable future contributing effectors, and address each of the major headings in the CEQ handbook. The key is to show whether any proposed alternative will contribute to significant degradation of a resource even if it alone will not cause serious degradation and to show Corps has made extra effort to minimize the project’s contribution to local degradation. The bulk of this information should be in a referenced appendix and summarized in the EIS.

**RESPONSE:** Concur.

**HQSACE ANALYSIS:** Documentation is needed in the final document.

(30) Section 7. Add a discussion of ENVIRONMENTAL JUSTICE compliance. Describe efforts to determine the presence of applicable populations in the impact area by using the smallest US Census unit information available (probably census blocks or urban areas) and field checks. If these populations are found, the public involvement section must describe the extra efforts made to gather and consider their needs and input. Describe their stated concerns and efforts to address these concerns.

**RESPONSE:** Concur.

**HQSACE ANALYSIS:** Documentation is needed in the final document.

(31) Table EIS-11. Many of these statutes list the EIS as the compliance document. The EIS is part of the compliance with NEPA; it is not the endpoint of compliance for other statutes. The Clean Air Act requires a letter from the local air quality control authority and comments from the USEPA on the feasibility-level documents. The Farmland Protection Policy Act requires coordination with the NRCS, a completed form AD-1006 should be attached to the NEPA document. The National Historic Preservation Act requires a letter from the SHPO. The Archeological & Historic Preservation Act requires a consultation letter from the USDO. Neither the Archeological Resources Protection Act, nor the Magnuson-Stevens Fishery Conservation and Management Act are listed, but both require outside consultation with the SHPO and the Regional Fishery Management Council, respectively. Some of the statutes listed are “Not Applicable”. It is not clear what are the compliance requirements of the WRDAs? With regard to the State statutes – it is not likely the EIS is the compliance document.

**RESPONSE:** Concur.

**HQSACE ANALYSIS:** District should state what they intend to do to respond to the comment.

## **B. AFB Report**

(1) Paragraph 2.2, ¶4: Provide the total length of the project. The magnitude of this project, and the disposal areas must be clear.

**RESPONSE:** Concur. The total length of the project is approximately 60 miles.

**HQSACE ANALYSIS:** Documentation is needed in the final document.

(2) Paragraph 2.3, ¶1: The Need For The Project in the Feasibility Report and the EIS must be consistent. Opening the Needs statement with a discussion of environmental

restoration is misleading. This is a navigation improvement project, not a mixed purpose project. Although dredged material may be used to stabilize marsh loss, it is misleading to represent this as a purpose of this project. Any marsh stabilization is mitigation and beyond that wise use of a by-product with incidental value.

**RESPONSE:** Concur. The Need and Opportunity Section has been revised in the Feasibility Report and EIS to ensure consistency.

**HQSACE ANALYSIS:** Documentation is needed in the final document.

(3) Paragraph 2.4.1 – T/E Species and Species of Local Concern: This report should specify which of these species are known to be associated with the project impact area and which are listed because they are known in the jurisdictional waters of Louisiana. The BA must address the direct effects of the alternatives on each species as well as the effects of any change in tow traffic and vessel configurations induced by the alternatives. Section 7 of the ESA requires discussion of the recommended alternative but the effects of the different alternatives must be considered as the reasonable and prudent measures and their costs may differ substantially among the alternatives and this would have a bearing on alternative selection.

**RESPONSE:** Potential impacts to endangered and threatened species were assessed in the Biological Assessment (BA) for the following species and the results is as follows:

Based on available information and general knowledge of the population status of sea turtles, whales, brown pelican, southern bald eagle, piping plover, Louisiana black bear, and in Louisiana, the proposed Port of Iberia channel deepening is considered unlikely to directly impact any population of these endangered and threatened species.

**HQSACE ANALYSIS:** If this is correct and so stated in the Feasibility Report and EIS, there should be only minimal discussion of T/E species in either document, per se. It is strongly suggested that at least draft Biological Opinions from the USFWS and NMFS supporting this position be included in the publicly circulated DFR and DEIS. Technical information should be included in an appendix, if anywhere. Documentation is needed in the final document.

(4) Paragraph 2.4.1 – Water Quality: This section should describe how this information relates to the proposed project area, not just the general area.

**RESPONSE:** Concur.

**HQSACE ANALYSIS:** Documentation is needed in the final document.

(5) Paragraph 2.4.2 - Navigation Related Development: The competition with other U.S. cities for this market must be described as well as the interrelationships/interdependencies with other cities.

**RESPONSE:** The answer to this question is explained in the response to 1(B) and 1(C) described above. The nature of competition with other U.S. cities is same and similar to the competition the Port of Iberia has with Morgan City and Houma Ports. The unique fabrication niche and labor pool available for the Port of Iberia differentiates from other ports.

**HQSACE ANALYSIS:** Documentation is needed in the final document.

(6) Paragraph 2.4.2 – Water Quality: It would be reasonable to assume continued enforcement of existing regulations will result in a trend of continuing WQ improvement. This trend has bearing on the significance of any impacts by the alternatives. Describe the expected future w/o project conditions through the end of the 50-year project economic life, say 2060 or 2070.

**RESPONSE:** Concur. A statement will be included in the future without project conditions portion of the water quality report addressing future expected conditions over the economic life of the project.

**HQSACE ANALYSIS:** Documentation is needed in the final document.

(7) Paragraph 3.1. Alternative 1: Explain why this alternative will not accommodate the remaining two users. The total dredging for this alternative is nearly 18M cy. How much does this differ from current dredging in volume and cost? What is the increase in annual O&M relative to the current volume and costs?

**RESPONSE:** Alternative 1 will accommodate all of the users, but only 9 of 11 of the users will have NED benefits. Based on interviews of the users, the following two companies have no NED benefits.

All Points Equipment Co. - All Points Equipment Company is engaged mainly in the marine riser fabrication and repair industry. The Company indicated that their business would expand with the project, as a result of a general increase in business activities. As the increases in other business expansion are already taken into account, these indirect effects do not qualify as project NED benefits. The Company indicated that a channel with at least 18 feet of water is required. Anything less than 18 feet would be a proportional decrease in benefits. The minimum width requirement is 125 feet. Further, since the marine risers are assembled at sea, channel deepening will not benefit this firm.

Coastal Fabrication, LLC. - From the limited information submitted by the firm it was not possible to determine what benefits will accrue to the firm with the project.

The existing Freshwater Bayou and this portion of the Gulf Intracoastal Waterway have not been dredged since the early 1980s, therefore, there is no current dredging volume or associated costs. The Freshwater Bayou Bar Channel is currently dredged every four years, with a total estimated quantity of 2.3 million cubic yards at a cost of \$3,945,625. The proposed plan requires a maintenance cycle of every three years, with a total

estimated quantity of 2.3 million cubic yards at a cost of \$6,193,750. The cost estimates are shown in the table below:

**PORT OF IBERIA FEASIBILITY STUDY**  
**MAINTENANCE DREDGING FOR FRESHWATER BAYOU BAR CHANNEL**  
**PROPOSED MAINTENANCE CYCLE EVERY THREE (3) YEARS**

<b>FRESHWATER BAYOU BAR CHANNEL</b> <b>(-)20.0 FOOT CHANNEL</b> <b>MAINTENANCE DREDGING</b>	
<b>ITEM</b>	<b>ESTIMATED COST</b>
Mobilization/Demobilization	\$785,000
Dredging	\$3,910,000
E&D	\$125,000
S&A	\$135,000
<b>SUBTOTAL</b>	<b>\$4,955,000</b>
Contingency (25%)	\$1,238,750
<b>TOTAL</b>	<b>\$6,193,750</b>

**PORT OF IBERIA FEASIBILITY STUDY**  
**MAINTENANCE DREDGING FOR FRESHWATER BAYOU BAR CHANNEL**  
**EXISTING MAINTENANCE CYCLE EVERY FOUR (4) YEARS**

<b>FRESHWATER BAYOU BAR CHANNEL</b> <b>EXISTING MAINTENANCE DREDGING</b>	
<b>ITEM</b>	<b>ESTIMATED COST</b>
Mobilization/Demobilization	\$776,500
Dredging	\$2,150,000
E&D	\$125,000
S&A	\$105,000
<b>SUBTOTAL</b>	<b>\$3,156,500</b>
Contingency (25%)	\$789,125
<b>TOTAL</b>	<b>\$3,945,625</b>

**HQSACE ANALYSIS:** The Freshwater Bayou Bar Channel is currently dredged every four years, with a total estimated quantity of 2.3 million cubic yards at a cost of \$3,945,625. The proposed plan requires a maintenance cycle of every three years, with a total estimated quantity of 2.3 million cubic yards at a cost of \$6,193,750. The Port of Iberia report could either show the incremental O&M as a cost or alternatively show the total O&M with a benefit from savings on the existing O&M.

(8) Paragraph 3.1. Alternative 2 -- 7: Provide the previous information for these alternatives.

**RESPONSE:** Same as above

**HQSACE ANALYSIS:** The response **has resolved the concern.**

(9) Paragraph 3.3. The differences between the alternatives should be displayed for each resource discussed. Further, there should be an appendix or official file referenced where the significance of project impacts on each significant resource relative to No Action has been evaluated.

**RESPONSE:** Concur.

**HQSACE ANALYSIS:** The district should explain their process of selecting resources for detailed discussion in the EIS and where the consideration of the other significant resources that are not discussed in detail may be found. Documentation is needed in the final document.

(10) Paragraph 4. The Feasibility Report and EIS must be consistent whether this is a navigation project, ecosystem restoration project or a combined project. This is clearly a Navigation Project where mitigation includes use of the dredged material for marsh stabilization. The impacts of future O&M dredging is not considered.

**RESPONSE:** Concur.

**HQSACE ANALYSIS:** Documentation is needed in the final document.

(11) Paragraph 6.2. Environmental Concerns are a subset of Public Concerns. Public Concerns must reflect the concerns in 6.1. Describe what has been and is being done to address these concerns with the project design, etc. Describe any concerns that cannot be fully addressed what has been attempted and why full resolution is not possible.

**RESPONSE:** The primary access to the Port of Iberia from the Gulf of Mexico is by proceeding south down Commercial Canal to the GIWW, proceeding west on the GIWW

to Freshwater Bayou and south on Freshwater Bayou to the Gulf of Mexico through either the Freshwater Bayou Lock or Bypass Channel. The Freshwater Bayou Lock, the Schooner Bayou Control Structure, and the Leland Bowman Lock on the GIWW all form western boundary conditions of the modeled area. These structures are all part of the western boundary of the Mermentau River Basin System and are managed to provide an agricultural fresh water supply in the Mermentau Basin. Many crops, most particularly rice, grown in the Mermentau Basin have a very low tolerance for salt. There is a concern that deepening these channels will increase salinity levels along the western boundary of the study area and within the Mermentau River basin. In addition, the marsh along this boundary is stressed and additional salinity might cause it to change from fresh marsh to brackish marsh. A salinity model study was undertaken to address these concerns by evaluating the impacts the proposed deepening of the Port of Iberia's access to the Gulf of Mexico via Commercial Canal, the Gulf Intracoastal Waterway, and Freshwater Bayou.

The model results indicate relatively minor changes in salinities throughout the project areas. The maximum increase in salinities was 0.5 ppt. This occurred at Station 2 (Company Canal) during the fall/winter run for the 10 percent exceedance flood event. The maximum percentage increase was 39 percent, which corresponded to the 0.5 ppt increase.

The model concluded that the Port of Iberia navigation project that calls for the deepening of the port's access routes to the Gulf of Mexico via the Freshwater Bayou bypass structure will result in negligible changes in salinities in the project area. There will probably be rare occasions resulting in salinity increases of up to 0.5 ppt. The predominant affect is likely to be an overall freshening of the project area of up to about 20 percent.

A Water quality analysis was done to investigate the effects of construction due to dredging. The effects of dredging and disposal areas may include (but are not limited to) typical short-term effects including increased turbidity and sedimentation, increased temperature, increased oxygen demand, and decreased oxygen, and contamination from construction equipment and operations. These effects are considered to be temporary and cease with the end of the construction period. Long-term effects include a healthier, deeper channel for access from the Port of Iberia to the gulf, as well as new marshland creations areas created from dredged material. Also, the shoreline on the gulf adjacent to Freshwater Bayou as well as the designated shoreline in Weeks Bay that will be used for disposal will gain some protection from tidal influence of the Gulf of Mexico.

There was also a concern with the eroding banklines caused by the wave wake of vessel traffic. Rock is being placed along both banks of the banklines to break the waves and slow the rate of or prevent further erosion.

**HQUSACE ANALYSIS:** The information in the response addresses the environmental concerns and should be included in the EIS and Feasibility Report. However, the response should also describe what the Corps plans to do to "on the ground" to resolve the publics' concerns (models and studies are the beginning), or why these concerns cannot be resolved. Documentation is needed in the final document.

(12) Paragraph 7.1.2. The assertion that the net environmental effect of the recommended plan is positive is a strong, unsupported assertion. A quantified comparison table showing the net changes for each significant resource is needed to support this statement. Increasing the size of the dredged bottom and larger maintenance disposal areas are not likely to be viewed as positive by all interested agencies and NGOs.

**RESPONSE:** Concur.

**HQSACE ANALYSIS:** District should state what they intend to do to respond to the comment.

(13) Paragraph 7.1.4 – 7.1.10 - This appears to be a section on compliance with environmental statutes. It should be so labeled. This list should cover at least the same statutes as the EIS.

**RESPONSE:** Concur.

**HQSACE ANALYSIS:** Documentation is needed in the final document.

(14) Paragraph 7.1.8. Clean Water Act compliance must also discuss §404(r) and §401. According to ER 1105-2-100, C-6 the district must prepare this report in such a way that it will qualify for Section 404(r) exemption from Section 401 of the Clean Water Act and to qualify for Section 401 State Water Quality certification. The district must make it clear at the earliest practicable time (now) that it intends to qualify and apply for Section 404(r) exemption. The district should also make it clear that it intends to work very closely with the state water quality office to be sure it meets state WQ requirements.

**RESPONSE:** The provisions of Section 404 of the Clean Water Act for all project features will be met via the Section 404(r) process by the submission of the EIS entitled "Port of Iberia Channel Deepening Study", including a Section 404(b)(1) Evaluation, to Congress for appropriation and/or authorization action.

**HQSACE ANALYSIS:** In accordance with section C-6 of ER 1105-2-100, qualification for and intent to apply 404(r) must be clearly stated in the EIS and Feasibility Report. Documentation is needed in the final document.  
Documentation is needed in the final document.

(15) Paragraph 7.1.10. Incorporate this discussion in the broader Clean Water Act discussion.

**RESPONSE:** Concur.

**HQSACE ANALYSIS:** Documentation is needed in the final document.

(16) Paragraph 7.3. The Feasibility Report should be more detailed than the EIS. This report should include in the main body or an appendix the Cost Effectiveness and Incremental Analysis of the mitigation measures and discussion of the state, USFWS and NMFS suggestions.

**RESPONSE:** Concur. The project alternatives were formulated in a manner that would be self-mitigating and environmentally acceptable given the existing environmental laws and Environmental Operating Principles. No "single purpose" feature for environmental enhancement or restoration exists. The least-cost/environmentally acceptable disposal methods were identified. As a result, incremental analysis was not considered appropriate. Suggestions from the state, USFWS, and NMFS will be formally added to the report after the EIS is mailed out for public review. Preliminary suggestions from resource agencies indicate that the BC ratio of a navigation project should stand alone on navigation benefits and not passed off as an environmental project. These inputs were considered in the plan formulation of these project alternatives.

**HQUSACE ANALYSIS:** The response is not clear about which "Suggestions from the USFWS .... will be formally added after the EIS is mailed out for public review." The concerns and suggestions of other agencies, especially those with jurisdictional responsibilities or special subject matter expertise must be included in the EIS that is mailed out for public review, not afterwards. If the district is referring to the Final Coordination Act Reports, this must be clearly stated and the final CARs may be attached after the draft. However, the essence of these reports must be in the draft. Documentation is needed in the final document.

(17) Paragraph 11.14. This is not sufficient. HTRW issues must be presented here and in the EIS. HTRW is a serious consideration in the alternative design/formulation process and could have a bearing on the design and costs of alternatives and which alternative is recommended.

**RESPONSE:** Concur.

**HQUSACE ANALYSIS:** Documentation is needed in the final document.

(18) Paragraph 12. This section seems redundant with the Environmental Commitments. If both sections are needed, they should cover distinctly different topics. More likely the sections should be merged.

**RESPONSE:** Concur.


**HQUSACE ANALYSIS:** Documentation is needed in the final document.

(19) Paragraph 15.1. This estimate must include Mitigation, Reasonable & Prudent Measures for protected species, cost of monitoring and O&M of environmental features.

**RESPONSE:** Concur.

**HQUSACE ANALYSIS:** Documentation is needed in the final document.

MAY - 8 2006

MEMORANDUM FOR Commander, Mississippi Valley Division 

SUBJECT: Civil Works Review Board (CWRB) directions on Port of Iberia Navigation Draft Final Feasibility Report and Environmental Impact Statement.

1. Reference: Meeting, CWRB, 27 April 2006, subject: Port of Iberia Navigation Feasibility Draft Final Report and Environmental Impact Statement.
2. Purpose. To provide the Mississippi Valley Division (CEMVD) directions for expanding its rationales for plan selection and project recommendation as presented in the feasibility report. At the referenced CWRB meeting, the Board voted 5-0 to delay initiating State and Agency review pending review of additional information to be provided by CEMVD in support of its recommendation.
3. Direction: The Board instructed CEMVD to develop a project recommendation substantiated by the economics data collection and scenario analysis results. The data and results should demonstrate a clear linkage to the project recommendation. Specifically, CEMVD should incorporate the following items in its expanded analysis and rationale for a project recommendation:
  - a. Identification of the underlying assumptions, including competition, topside forecasts, and modularization. This must include consideration of the potential for shipments using two barges.
  - b. An evaluation of the data collected, including confidence levels, reasonability, and suitability.
  - c. Identification of key areas of uncertainty and estimation of respective bounds.
  - d. An assessment of the market share scenarios, including estimated probabilities of occurrence.
  - e. An evaluation of the deep-water topside production forecast methodologies, including their comparability and reasonability
  - f. An assessment of benefits not quantified, to include, but not limited to economic impact of offshore energy and transportation cost savings.

The Board did not recommend specific methodologies for the expanded rationale, but during discussions suggested statistical or heuristic methods such as expected value calculations, probability bounds analysis, and risk assessment. CEMVD may consider different methodologies, quantitative and qualitative, to use project data and scenario results in developing a recommendation; however, the recommendation should be informed by all items presented above as 3.a.-f. Additionally, CEMVD should include supporting rationale for its Federal cost-sharing recommendation, given modularization practices.

CECW-PC

SUBJECT: Civil Works Review Board (CWRB) directions on Port of Iberia Navigation  
Draft Final Feasibility Report and Environmental Impact Statement.

3. Review. The Board will review the documentation supporting the expanded rationale for the project and cost-sharing recommendations and determine the next course of action.

FOR THE COMMANDER

*Please provide  
transmittal letter with  
your Commander's  
assessment.*

  
DON T. RILEY  
Major General, USA  
Director of Civil Works

## MEMORANDUM FOR MVD RIT (ATTN: Mr. Zoltan Montvai)

SUBJECT: CEMVD response for the Civil Works Review Board (CWRB) containing expanded rationale for project recommendation on Port of Iberia Navigation Draft Final Feasibility Report and Environmental Impact Statement, dated 18 July 2006.

1. At the request of CEMVD-RIT, the Office of Water Project Review (OWPR) team has completed a policy compliance review of the subject document and comments are enclosed.
2. Overall, the review team finds that the CEMVD response to the CWRB direction was well organized and addressed, for the most part, the items outlined by the CWRB in the 18 July 2006 CECW-ZA memorandum. Furthermore, the review team commends the district for including the recently revised forecasts from the Minerals Management Service in the supplemental analysis.
3. As detailed in the enclosed review assessment, the review team does not believe that the CEMVD recommendation for full Federal cost-sharing in a 20-foot channel deepening at Port of Iberia (PoI) has been substantiated, as only 8 of 24 scenarios indicate that deepening to 20-feet is optimal and a majority of the scenarios indicate that no deepening is justified. If modularization practices are incorporated into the analysis, 17 of 24 scenarios indicate that a 16-foot channel deepening at PoI is optimal. As a result, the review team believes that any recommendation for Federal investment in channel deepening at PoI should be limited to the 16-foot channel plan. It is recognized that the Non-Federal Sponsor prefers the 20-foot channel-deepening plan, however our review indicates that all projected movements can be accommodated in a 16-foot channel, and as a result additional Federal investment costs to deepen the channel from 16- to 20-feet are not required. Consequently, the 20-foot channel-deepening plan should be recognized as the locally preferred plan.
4. The Chief of Engineers' report will need to consider that the analysis includes, as required by law, Congressionally-directed NED benefits that are actually transfers of business from one port to another and not the creation of new NED benefits. We need to ensure that this information is presented clearly in report materials so that the implications can be clearly understood by authorizers, appropriators, and the taxpayers. Additionally, the costs of the operation and maintenance aspects of this project will need to be considered in budgetary decisions, as the substantive funds required to maintain a Federal investment in channel deepening at PoI may be a challenge to our budget processes in future years. If a decision was made by the CWRB to initiate the State and Agency review process, some changes to the project report will be necessary to include the new analyses and ensure consistency in information presentation.

6. We will work with your office to determine how to provide the additional information to the CWRB for their consultation in the decision-making process. Any questions may be directed to Steve Cone at 202-761-5451.

Encl

A handwritten signature in black ink, appearing to read "Robyn S. Colosimo". The signature is fluid and cursive, with the first name "Robyn" being more prominent.

ROBYN S. COLOSIMO, P.E.  
Chief, Office of Water Project Review  
Policy and Policy Compliance Division

**Headquarters Review Assessment of  
Responses to Civil Works Review Board (CWRB) Directions on  
Port of Iberia, Louisiana  
August 2006**

1. General. This assessment documents concerns that resulted from a policy compliance review of the expanded rationale and project recommendation on the Port of Iberia Final Feasibility Report and Environmental Impact Statement developed by CEMVD in response to direction from the Civil Works Review Board (CWRB).
2. Reference. CEMVD Memorandum for CECW-ZA, dated 18 July 2006, Subject: Civil Works Review Board Directions on Port of Iberia Final Feasibility Report and Environmental Impact Statement. (encl.).
3. Summary of Office of Water Project Review (OWPR) Assessment.
  - a. The OWPR assessment is based on the summary information provided in the responses to the CWRB directives and information extracted from prior report submittals. The OWPR review team finds that the CEMVD response to the CWRB was well-organized and addressed, for the most part, the items outlined by the CWRB. Further, the analysis was updated with the inclusion of the recently revised forecasts from Minerals Management Service (MMS) and the recommendation was based on new data, which provides decision makers with the most current information.
  - b. However, the materials presented do not depict a strong case for recommending a Federal investment in a 20-foot channel deepening at Port of Iberia (PoI) with full Federal cost-sharing when using the Congressionally-directed method for determining National Economic Development (NED) benefits. Of the 24 scenarios, a majority (13) indicate that no deepening at PoI is justified, and only 8 of 24 scenarios indicate that deepening to 20 feet is optimal with Congressionally-directed NED benefits. By contrast, with modularization (e.g. use of two barges for the larger topsides) the outcome is 17 of 24 scenarios indicating deepening is justified to 16 feet, representing more than 70 percent of the scenarios. As a result, any recommendation for channel deepening at PoI based on Congressionally-directed NED benefits should not exceed Federal cost-sharing as limited to the 16-foot channel plan. The basis for this OWPR assessment is detailed below.
4. Specifics of OWPR Assessment. The HQ policy review assessment, summarized above, is based on the following observations and comments on the responses to the CWRB directives for an expanded rationale for the project recommendation at PoI.
  - a. The newly provided information makes use of updated and revised MMS forecasts for the Gulf of Mexico market for large, deep water topsides. Both high and

low MMS forecasts are less in 2006 than the previous 2001 forecasts. As presented now, the total deep water GOI top-side market for the period of analysis amount to 73, 57, and 49 units for the MMS High, Infield, and MMS Low forecasts respectively (compared to 90, 57, and 56 units presented previously as 2001 forecasts.). CEMVD does not place any probabilities on the forecasts but rather states that, “By using both sources of information a reasonable range of all possible outcomes was achieved.” Further, CEMVD selects the MMS High projection as “most likely”, and bases its justification and plan selection on this one high forecast and a mid-point of market shares resulting in a 1.2 BCR for the 20-foot plan. The rationale stated for selecting MMS High as the most probable is based on two principle factors. First, an oil price of \$46 per barrel is used in the MMS High forecast compared to \$30 for the MMS low. With current oil prices in excess of \$70 and little chance of decreasing significantly, CEMVD believes that MMS High forecasts may even be understated. Second, CEMVD sites the upward trend in undiscovered resources in the MMS projections. OWPR does not find either of these rationales convincing that the MMS High projections are “most-likely” or that they may be understated. Both the oil prices used and the recoverable reserves in MMS forecasts are higher than in 2001 and prior estimates. However, the numbers of forecast deep-water rigs are lower. Furthermore, according to research by MMS posted on their website, the world price of oil does not significantly influence domestic production in the near term (10 years). The data show that current oil prices or higher if sustained have little effect on undiscovered economically recoverable reserves. This is especially true of prices greater than \$45 per barrel. Consequently, there is no compelling basis to assume that higher oil prices would readily result in more domestic production (and platforms).

b. The fabricated deep-water topside units forecast to move on an 18-foot and/or 20-foot channel are comprised of disassembled modules totaling 12,000 to 15,000 tons. The modules must move unassembled for at-sea installation given the limitations on derrick barge lifting capabilities (the heaviest lift on record worldwide is about 11,400 tons).. Given that topside modules are already moving unassembled, it is reasonable to assume that they could be shipped concurrently on separate barges, albeit at a higher transportation cost (note: transportation cost is a minor percentage of the topside’s contracted cost, or less than 10 percent). While the current industry practice involves shipment of modules on one barge, there is no strong indication that it should prevail over the 50-year analysis period. Corps of Engineers’ analyses regularly assume that feasible economic and engineering changes in industry practices could occur with and without recommended project implementation.

c. Table 1 in the CEMVD memorandum presents average annual net benefits for the 24 market share scenarios by channel depth. Of the 24 scenarios, a majority (13) indicate that no deepening at PoI is justified, while 11 scenarios indicate that some deepening is justified on the basis of Congressionally-directed NED benefits. Only 8 of 24 scenarios indicate that deepening to 20 feet is optimal with Congressionally-directed NED benefits (benefit-to-cost ratios range from an estimated 1.7 to 0.6). The CEMVD response does not provide detail on the corresponding numbers of topsides forecast by channel depth which is relevant information for decision makers; therefore, an estimate was developed by the OWPR team by applying the previously estimated market shares

by channel depth to the revised forecast total Gulf of Mexico (GOM) topsides. The table below displays the estimates of deep-water topsides fabricated by PoI firms over the 50-year analysis period. Across all scenarios, the 20-foot channel plan accommodates 1 to 3 additional topside movements than the 16-foot channel plan over the period of analysis. As a result, conceptually, a recommendation to construct the 20-foot channel plan at PoI could hinge on 1 speculative movement over a 50-year analysis period. Given the uncertainty inherent in the topside forecasts and market share assumptions, the investment increment for 1 movement may be more of a gamble than a risk based decision. Furthermore, it is important to note that the same movement requiring the 20-foot channel plan, which consists of disassembled topside modules totaling 15,000 tons moved on one barge, could be moved concurrently on the 16-foot channel on two barges.

**Estimated Production of Deep-water Topsides by POI Firms Over the Analysis Period**

<b>Competition</b>	<b>Infield GOM Market</b>		<b>MMS High GOM Market</b>		<b>MMS Low GOM Market</b>	
	No Increased Competition	Increased Competition	No Increased Competition	Increased Competition	No Increased Competition	Increased Competition
16 Foot Channel	11.5	10.0	14.7	12.8	9.9	8.6
18 Foot Channel	1.5	1.2	1.9	1.5	1.3	1.0
20 Foot Channel	1.3	1.0	1.6	1.3	1.1	0.9
<b>20 Percent EPC</b>						
16 Foot Channel	9.2	8.1	11.8	10.3	7.9	6.9
18 Foot Channel	1.2	1.0	1.5	1.2	1.0	0.8
20 Foot Channel	1.0	0.8	1.3	1.0	0.9	0.7
<b>50 Percent Integration</b>						
16 Foot Channel	8.0	7.1	10.3	9.1	6.9	6.1
18 Foot Channel	0.6	0.5	0.8	0.6	0.5	0.4
20 Foot Channel	0.5	0.4	0.6	0.5	0.4	0.3
<b>Staging</b>						
16 Foot Channel	7.3	6.4	9.4	8.2	6.3	5.5
18 Foot Channel	0.6	0.5	0.8	0.6	0.5	0.4
20 Foot Channel	0.5	0.4	0.6	0.5	0.4	0.3

d. The table presented above, displaying estimated topside fabrication by PoI firms, highlights that the majority of future fabrication business will involve 9,000-10,000-ton topside units that can be accommodated on a single barge moving on a 16-foot channel. Deepening the PoI channels to 16 feet could result in opportunities for PoI firms to participate in the deep-water fabrication business that are unavailable to them with the existing channel configuration. Additional business could be garnered with an assumed change in industry practice only for transporting the largest topsides, which already move disassembled. With concurrent shipment of large topside modules on separate barges, PoI could also compete for fabrication contracts on the largest deep-water topsides with the 16-foot channel plan. CEMVD's Table 1 was revised by the OWPR team to account for a change in industry practice with modularization that would result in all Congressionally-directed NED benefits accruing at the 16-foot channel depth. The outcome is 17 of 24 scenarios indicating maximum net benefits for channel deepening to 16 feet at PoI, representing more than 70 percent of the scenarios (corresponding benefit-to-cost ratios range from 2.2 to 0.8). This is in contrast to the

CEMVD analysis which results in only 8 of 24 indicating maximum net benefits for the 20-foot channel plan without modularization, or only 33 percent of scenarios. Therefore, any Corps recommendation for channel deepening at PoI based on Congressionally-directed NED benefits should not exceed Federal cost-sharing as limited to the 16-foot channel plan.

**Annual Net Benefits for Two-Barge Transport (\$000)**

<b>Competition</b>	<b>Infield GOM Market</b>		<b>MMS High GOM Market</b>		<b>MMS Low GOM Market</b>	
	No Increased Competition	Increased Competition	No Increased Competition	Increased Competition	No Increased Competition	Increased Competition
16 Foot Channel	\$8,523	\$5,786	\$14,192	\$10,667	\$5,877	\$3,509
18 Foot Channel	\$6,835	\$4,098	\$12,504	\$8,979	\$4,189	\$1,821
20 Foot Channel	\$4,702	\$1,965	\$10,371	\$6,846	\$2,056	(\$312)
<b>20 Percent EPC</b>						
16 Foot Channel	\$4,614	\$2,380	\$9,156	\$6,278	\$2,494	\$561
18 Foot Channel	\$2,926	\$692	\$7,468	\$4,590	\$806	(\$1,127)
20 Foot Channel	\$793	(\$1,441)	\$5,335	\$2,457	(\$1,327)	(\$3,260)
<b>50 Percent Integration</b>						
16 Foot Channel	\$1,487	(\$77)	\$5,127	\$3,113	(\$212)	(\$1,565)
18 Foot Channel	(\$201)	(\$1,765)	\$3,439	\$1,425	(\$1,900)	(\$3,253)
20 Foot Channel	(\$2,334)	(\$3,898)	\$1,306	(\$708)	(\$4,033)	(\$5,386)
<b>Staging</b>						
16 Foot Channel	(\$77)	(\$1,472)	\$3,113	\$1,314	(\$1,565)	(\$2,773)
18 Foot Channel	(\$1,765)	(\$3,160)	\$1,425	(\$374)	(\$3,253)	(\$4,461)
20 Foot Channel	(\$3,898)	(\$5,293)	(\$708)	(\$2,507)	(\$5,386)	(\$6,594)

5. Additional Comments. The following comments relate to remaining concerns from prior reviews and are noted again here for consideration in decision-making processes, as well as for sake of complete review records.

a. The benefits estimated for this analysis represent not only regional economic development (RED) benefits, they are in fact transfers of economic activities from other regions and businesses. While Congressional legislation directed that contract value benefits are to be counted as NED benefits, they do not satisfy guidelines for NED prescribed by the Water Resources Council in the Principles and Guidelines. The same numbers of topsides are forecast for fabrication by Gulf of Mexico (US) companies with or without the proposed project at PoI. US fabricators operating on the Gulf of Mexico have sufficient excess capacity to produce all forecast deep-water topsides in the absence of a project at PoI.

b. Considering the Congressionally-directed measurement of NED benefits as it relates to this project, it is not clear that CEMVD's recommended 20-foot depth plan could be considered the "NED Plan" or that it qualifies as a categorical exception. As such, in accordance with paragraph E-3.b.1 of ER 1105-2-100 and EC 1165-2-409, the Corps may need to obtain an exception from ASA (CW) to recommend a plan other than the NED Plan.

c. The OWPR assessment did not consider any budgetary implications of the recommendation. It is important to note, however, that aside from the construction first cost, the project requires a significant commitment of O&M funding over the project life to realize the Congressionally-directed NED benefits. Future O&M is forecast to occur on a 4-year cycle at an estimated cost of \$15-\$20 million per cycle.

6. Conclusion. The materials presented by CEMVD do not support a Federal investment in a 20-foot channel deepening at Port of Iberia with full Federal cost-sharing when using the Congressionally-directed method for determining NED benefits. At best, any Corps recommendation for channel deepening at PoI based on Congressionally-directed NED benefits should limit Federal cost-sharing to the 16-foot channel plan.



DEPARTMENT OF THE ARMY

MISSISSIPPI VALLEY DIVISION, CORPS OF ENGINEERS

P.O. BOX 80

VICKSBURG, MISSISSIPPI 39181-0080

<http://www.mvd.usace.army.mil/>

REPLY TO  
ATTENTION OF:

CEMVD-DE

18 JUL 2006

MEMORANDUM FOR HQUSACE (CECW-ZA), WASH DC 20314-1000

SUBJECT: Civil Works Review Board (CWRB) Directions on Port of Iberia Navigation Draft Final Feasibility Report and Environmental Impact Statement

1. Reference:

a. Meeting, Civil Works Review Board, 27 April 2006, Subject: Port of Iberia Navigation Feasibility Draft Final Report and Environmental Impact Statement.

b. Memorandum, CECW-PC, 8 May 2006, SAB (encl 1).

2. The enclosed report (encl 2) presents the rationale required in reference b above.

3. Note that as the district team was preparing responses, it was discovered that the Minerals Management Service had updated their forecasts for the size of the Gulf of Mexico market. This updated information is reflected in the report. The new forecasts make use of an updated model that incorporates numerous features that are believed to enhance the model's predictive capability. Since forecasts are critical to the recommended plan, these new forecasts were utilized in the Summary of Results and Recommendations section of the enclosed report.

4. The updated forecast and the assessment of underlying assumptions and other requested items resulted in verifying the 20-foot channel alternative as the recommended plan.

5. The first cost is estimated at \$203,000,000, with the net average annual operation, maintenance, repair, replacement, and rehabilitation cost currently estimated at \$2,631,000. During construction, the first cost allocated to the Federal government

CEMVD-DE

SUBJECT: Civil Works Review Board (CWRB) Directions on Port of Iberia Navigation Draft Final Feasibility Report and Environmental Impact Statement

is currently estimated to be \$148,000,000. The total non-Federal cost sharing during construction is estimated to be \$55,000,000. Included in the non-Federal share of the project costs are the Local Service Facilities, Removals, and LERRDs.


6. In conclusion, I recommend increasing the project dimensions of several channels from the Port of Iberia, Louisiana, to the Gulf of Mexico, to 20 feet deep by 150 feet wide with the cost sharing as stated above. I request that the state and agency review of the plan be initiated and the report be processed to Congress.



Encls

ROBERT CREAR  
Brigadier General, USA  
Commanding

MAY - 8 2006

MEMORANDUM FOR Commander, Mississippi Valley Division 

SUBJECT: Civil Works Review Board (CWRB) directions on Port of Iberia Navigation Draft Final Feasibility Report and Environmental Impact Statement.

1. Reference: Meeting, CWRB, 27 April 2006, subject: Port of Iberia Navigation Feasibility Draft Final Report and Environmental Impact Statement.
2. Purpose. To provide the Mississippi Valley Division (CEMVD) directions for expanding its rationales for plan selection and project recommendation as presented in the feasibility report. At the referenced CWRB meeting, the Board voted 5-0 to delay initiating State and Agency review pending review of additional information to be provided by CEMVD in support of its recommendation.
3. Direction: The Board instructed CEMVD to develop a project recommendation substantiated by the economics data collection and scenario analysis results. The data and results should demonstrate a clear linkage to the project recommendation. Specifically, CEMVD should incorporate the following items in its expanded analysis and rationale for a project recommendation:
  - a. Identification of the underlying assumptions, including competition, topside forecasts, and modularization. This must include consideration of the potential for shipments using two barges.
  - b. An evaluation of the data collected, including confidence levels, reasonability, and suitability.
  - c. Identification of key areas of uncertainty and estimation of respective bounds.
  - d. An assessment of the market share scenarios, including estimated probabilities of occurrence.
  - e. An evaluation of the deep-water topside production forecast methodologies, including their comparability and reasonability
  - f. An assessment of benefits not quantified, to include, but not limited to economic impact of offshore energy and transportation cost savings.

The Board did not recommend specific methodologies for the expanded rationale, but during discussions suggested statistical or heuristic methods such as expected value calculations, probability bounds analysis, and risk assessment. CEMVD may consider different methodologies, quantitative and qualitative, to use project data and scenario results in developing a recommendation; however, the recommendation should be informed by all items presented above as 3.a.-f. Additionally, CEMVD should include supporting rationale for its Federal cost-sharing recommendation, given modularization practices.




CECW-PC

SUBJECT: Civil Works Review Board (CWRB) directions on Port of Iberia Navigation  
Draft Final Feasibility Report and Environmental Impact Statement.

3. Review. The Board will review the documentation supporting the expanded rationale for the project and cost-sharing recommendations and determine the next course of action.

FOR THE COMMANDER

*Please provide  
transmittal letter with  
your Commander's  
assessment*

  
DON T. RILEY  
Major General, USA  
Director of Civil Works



DEPARTMENT OF THE ARMY  
NEW ORLEANS DISTRICT, CORPS OF ENGINEERS  
P.O. BOX 60267  
NEW ORLEANS, LOUISIANA 70160-0267

REPLY TO  
ATTENTION OF

CEMVN-PM-E


17 Jul 06

MEMORANDUM FOR Commander, Mississippi Valley Division (CEMVD-PD-N/  
Mr. Wilbanks)

SUBJECT: Civil Works Review Board (CWRB) Directions on Port of Iberia Navigation Draft  
Final Feasibility Report and Environmental Impact Statement

1. Reference the CWRB meeting on 27 April 06. Also reference your 23 May 06 memorandum, which transmitted the 8 May 06 CWRB's guidance memorandum, all regarding the Port of Iberia Final Feasibility Report and Environmental Impact Statement. The CWRB requested a letter that explains the rationales for plan selection and project recommendation, utilizing existing information. I hereby submit the response for the CWRB.
2. Note that additional information was recently received from Minerals Management Service which is relevant to the project analysis and recommendation. The information is their updated forecasts for the size of the Gulf of Mexico market. The new forecasts make use of an updated model that incorporates numerous features that are believed to enhance the model's predictive capability. Since forecasts are critical to the recommended plan, these new forecasts were utilized in the Summary of Results and Recommendation sections of the enclosed. While this new forecast is different from the one presented in the Feasibility Report, the recommended plan remains unchanged from the 20-foot channel alternative previously identified.
3. Therefore, I recommend increasing the project dimensions of several channels from the Port of Iberia, Louisiana to the Gulf of Mexico, to 20-feet deep by 150-feet wide and request approval to proceed with initiating state and agency review of this plan.

Encl

  
RICHARD P. WAGENAAR  
Colonel, EN  
Commanding

*Encl 2*

**Port of Iberia Feasibility Study  
Responses to Civil Works Review Board (CWRB) Directions**

## INTRODUCTION

A crucial element of the economic analysis performed for this study was forecasting, over a 50-year period of analysis, how many deep-water oil and gas topsides Port of Iberia (POI) fabricators are expected to build with a deeper access channel to the Gulf of Mexico (GOM). To determine this, two essential tasks had to be performed: 1) forecasting the size of the deep-water topsides market that (POI) fabricators are likely to participate in over a 50-year time period, and 2) forecasting the POI expected share of this market, over the same time period. Because of the high degree of uncertainty inherent in long-term forecasts, especially involving a volatile sector like the oil and gas industry, a scenario analysis was conducted to show a range of possible outcomes. As described in the feasibility study it was decided that computation of the number of topsides that would be fabricated at POI with channel deepening, along with the associated benefits, should be based on mid-range estimates of overall market size and the POI share of that market. Following this process the 20-ft channel alternative produced the highest level of average annual net benefits. On this basis the 20-ft channel alternative was selected as the recommended plan in the feasibility report.

Subsequent to submission of the feasibility report additional information has become available which is relevant to the project analysis and recommendation. This new information deals with the size of the GOM topsides market. Updated forecasts by the Minerals Management Service (MMS) have resulted in some modification of the results presented in the feasibility study as well as reconsideration of the rationale employed in selection of the recommended plan. However, the recommended plan remains unchanged from the 20-ft channel alternative identified in the feasibility report.

The following are MVN's responses to items 3a – 3f listed in the May 8th memorandum from CECW-PC.

***3.a Identification of the underlying assumptions, including competition, topside forecasts, and modularization. This must include consideration of the potential for shipments using two barges.***

Competition: It was assumed for this feasibility analysis that any firm that is capable of producing topsides for the platforms used in deepwater production of petroleum products was in competition with the fabricators at Port of Iberia (POI). Three large topside fabricators (top tier) were identified which were considered POI's most formidable competitors. Other competitors identified were domestic firms that are currently engaged in ship building, rig repair, etc that do not plan to enter the topside market immediately but have plans to compete in the topside market at a date within the period of analysis. Also identified were large ship building firms located on the Asian Pacific rim that anticipate a slow down in orders and thus have plans to enter the rig/topside market of the

GOM at some future date within the period of analysis. These assumptions regarding competition to POI fabricators were incorporated in the scenario analysis conducted for this study.

**Topside Forecast:** Long-term (50-year) forecasts of the number, type, size, location and contract value of future topsides for the world market and more specifically the Gulf of Mexico (GOM) market were developed for the period of analysis. Although the fabrication of oil/gas offshore production equipment is worldwide, the major U.S. fabricators interviewed regard their primary market to be the GOM. The rest of the world is viewed as being highly restricted with respect to business opportunities. For example, Brazil, West Africa, Mexico, North Sea, Venezuela, and the Far East (Indonesia) are regarded as closed markets because of local content requirements.

**Modularization:** The measurement of benefits in this analysis is predicated on the fact that a single barge will be required to transport very large topsides. Current industry practice requires that the entire topside structure (fabricated and add-on pieces) be transported on one barge to the integration site. Engineering and Design firms, representing the oil and gas company, determine how they want their structure to be constructed and ultimately how they want it to be transported once complete. If fabricators are unable to meet any of the criteria as advertised, their proposal would be labeled as non-responsive and excluded from the final bid list. In other words, this fabricator would be viewed with suspicion as to their overall capability if they could not meet this basic requirement due to channel restrictions. Other than the engineering capability to transport using two barges, there is nothing to suggest that the industry will change its view regarding current practice. Therefore, in this analysis, it was assumed that the standard industry practice with regards to transportation of the completed structure (i.e moving the topside on a single barge) is the most likely future alternative and would continue throughout the period of analysis, and, that the inability of POI to satisfy this requirement, would eliminate all fabricators located at the POI from bidding on such contracts. Given that a single barge transport will require a 20-foot channel, Federal Cost Sharing guidelines should apply to the recommended 20-foot channel alternative.

The following is a brief description of the underlying assumptions used in the benefit analysis.

- 1) The forecast of deep-water topsides was limited to the GOM based on an assumption that US fabricators would be only minor contributors to the topside markets in the rest of the world.
- 2) The starting point for estimating market share is based on the assumption that each competitor would receive a share of the total GOM topside market based on their contribution to total capacity as measured by total labor hours available for deepwater topside fabrication during the period of analysis.
- 3) It was assumed that other market share determinants (discussed below in 3d) could reduce POI ultimate share of the GOM topside market.

### ***3.b An evaluation of the data collected, including confidence levels, reasonability, and suitability.***

The starting point for scenario-specific POI topsides estimates is projecting the size of the topsides market facing the POI fabricators. Determining the size of the GOM market was performed by Infield Systems LTD (Infield) and Minerals Management Service MMS.

Infield is a London-based firm with a Houston office that supplies information on the worldwide oil and gas industry to business executives through a wide range of databases, publications, and analytical services. Infield's worldwide database is called the Offshore Energy Database, which covers all aspects of the offshore oil and gas industry. It is incorporated into Infield's proprietary OFFPEX modeling system to forecast the scheduling and value of projects component by component, taking into account macroeconomic and business processes. Over the entire 50-year forecast period (2012-2061), Infield projected that 57 production platforms would be developed in the deepwater Gulf of Mexico. It should be noted that Infield does not produce low and high forecast estimates. Their long-term forecast represents a point estimate over the period of analysis.

Department of Interior, MMS is responsible for the US minerals management and repository. MMS produces long-term low and high forecasts every five years that is used for planning and analysis of their five-year leasing program. The forecasts identify the number of oil/gas platforms in deepwater GOM. The forecasts are based on anticipated activity from recent industry announced discoveries and from the MMS assessment of future potentials from "yet to find" oil and gas fields in each region of the GOM. Over the entire 50-year forecast period (2012-2061), MMS projected that 73 production platforms would be developed in the Gulf of Mexico using their high projection and 49 platforms using their low projection. (This compares to 90 and 56 platforms for the previous MMS high and low forecasts, respectively, incorporated in the feasibility study. As an interesting note, while the numbers of platforms are lower with the latest forecast, the assumed amount of undiscovered reserves is higher.) The most recent MMS forecasts make use of an updated model that incorporates numerous features that are believed to enhance the model's predictive capability. A key model input is the price of crude oil. The prices assumed in the current forecast were \$46 per barrel for the high forecast and \$30 per barrel for the low forecast.

By using long-term topsides forecasts, obtained from well-respected sources as Infield and MMS, it is believed that a reasonable level of confidence in the data was achieved. However, as with any long-term forecasts, a certain level of uncertainty will always be present.

### ***3.c Identification of key areas of uncertainty and estimation of respective bounds.***

Given the nature and complexity of the benefit calculations, an unavoidable component of uncertainty is contained in the estimates of project benefits. A single change to any

number of assumptions holds the potential for significantly affecting benefit estimates, and ultimately, in turn, economic justification. Therefore a scenario analysis was conducted to show the full range of possible outcomes.

By far the greatest area of uncertainty in this analysis has to be with the long-term (50-year) forecast of the size of the GOM deepwater topsides market and the corresponding long-term forecast of the share of this market POI fabricators are likely to obtain. As with any long-term scenario the potential margin of error increases as time progresses. The effort to forecast the size of the GOM deepwater topside market was performed by Infield Systems LTD and MMS. As mentioned in 3.b, Infield's long-term forecast represents a point estimate over the period of analysis whereas MMS produces high and low long-term forecasts over the same period of analysis. By using both sources of information a reasonable range of all possible outcomes was achieved.

### ***3.d An assessment of the market share scenarios, including estimated probabilities of occurrence.***

In determining the share of the GOM market that POI fabricators would likely achieve, it was assumed that a reasonable estimate of their share would, at most, be equal to their share of total U.S. fabricator capacity, expressed in annual production hours. Using this assumption, POI fabricators share of the GOM topside market was estimated to be approximately 25 percent.

However, after conducting a series of interviews with oil and gas industry firms, including their engineering consultants, a list of other market share determinants was revealed that could play a significant role in estimating POI overall market share. These other market share determinants and how their impacts would be used in a scenario analysis are described briefly below.

*Foreign and Domestic Competition:* It was assumed for this feasibility analysis that any firm that is capable of producing topsides for the platforms used in deepwater production of petroleum products was in competition with the fabricators at POI. Three large topside fabricators (top tier) were identified which were considered POI's most formidable competitors. Other competitors identified were domestic firms that are currently engaged in ship building, rig repair, etc that do not plan to enter the topside market immediately but have plans to compete in the topside market at a date within the period of analysis. Also identified were large ship building firms located on the Asian Pacific rim that anticipate a slow down in orders and thus have plans to enter the rig/topside market of the GOM at some future date within the period of analysis. This market share determinant reflects the extent to which there will be increased competition that would affect POI share of the GOM market for topside fabrication. (~25% share assuming no increased competition and ~22% share assuming increased competition.)

*Type of contracts:* affect the ability of the POI fabricators to participate in bidding for topsides. Engineer, Procure and Construct (EPC) contracts, which call for a

single firm to handle the engineering design, procurement of materials and construction of topsides, will tend to exclude smaller firms such as the ones located at POI. These types of contracts are becoming more popular in the industry. In this analysis it was assumed that 20 percent of future projects would be built under EPC contracts. (This assumption further erodes POI share of the GOM market for topside fabrication to ~20% assuming no increased competition and ~17% assuming increased competition.)

*Platform Integration:* applies to topsides that can be integrated with hulls at dockside. Fabricators that have the ability to do this with deepwater access will have a competitive advantage over POI in securing topside contracts. POI fabricators will have the best success going after topsides for Spars, which have no shore-side integration issues. In this analysis it was assumed that 50 percent of topsides, other than Spars, would be available to POI fabricators. (This assumption, in combination with the “Type of Contracts” assumption, further erodes POI share of the GOM market for topside fabrication to ~16% assuming no increased competition and ~14% assuming increased competition.)

*Staging:* assumes that major oil companies would be more risk averse in awarding contracts to POI fabricators. Rather, the independent oil companies would be more likely to award contracts to POI fabricators and the majors would assess performance accordingly. In this analysis it was assumed that major oil companies would not award POI contracts for at least five years after inception of with-project conditions. (This assumption, in combination with the previous assumptions, further erodes POI share of the GOM market for topside fabrication to ~15% assuming no increased competition and ~13% assuming increased competition.)

As described above, combinations of the market share determinants are sequential and cumulative rather than independent of each other for scenario analysis. This results in possible POI shares of the GOM market for topside fabrication ranging from a high of 25 percent to a low of 13 percent.

The components of the POI market share that form the basis of the scenario construction do not lend themselves to quantitative analysis based on empirical data. Assignment of probabilities through a subjective process of expert elicitation was considered and dismissed as ultimately not likely to be definitive, as well as, perhaps, for not being completely consistent with the initial motivation for casting the analysis in a scenario-based framework.

***3.e An evaluation of the deep-water topside production forecast methodologies, including their comparability and reasonability.***

See the response to item 3.b. Determining the size of the GOM market was performed by Infield Systems LTD (Infield) and Minerals Management Service MMS, both representing highly respected sources of information in the oil and gas industry.

***3.f An assessment of benefits not quantified, to include, but not limited to economic impact of offshore energy and transportation cost savings.***

**Transportation Cost Savings**

The major tenant firms at the Port of Iberia are in the business of rig fabrication. However, there are a small number of firms that are in a support role for the offshore oil and gas industry. These businesses own and /or operate crew boats, supply boats, tugs, barges, as well as manufacture and ship process equipment and sub-sea coated pipe for the offshore industry. Their customers are as diverse as the industry and are spread across the globe. Currently these firms, due to channel depth restrictions, must either rail or truck their goods to Houston or New Orleans to be loaded on deep draft vessels or they must “light load” their vessels. Channel improvements would allow for larger vessels to transport the needed commodities directly to and from the Port of Iberia producing some level of transportation cost savings. It is believed these benefits would be realized with channel deepening. However, due to the inability to establish various operational details, this benefit category was eliminated from the analysis.

**Impacts to Domestic Oil and Gas Industry**

The deepwater of the Gulf of Mexico is increasingly the frontier for energy production in the United States and has become an integral part of the nation’s energy supply. Most of this movement into the deepwater has occurred in the last decade and the technology that made this possible is currently expanding at a rapid rate. As Minerals Management Service (2004:113) notes:

The deepwater GOM continues to increase in its importance to the Nation’s energy supply. The large number of active deepwater leases, the drilling of important new discoveries, the growing deepwater infrastructure, and the increasing deepwater production are all indicators of the expanding frontier. This ensures that the deepwater GOM will remain as one of the world’s premier oil and gas basins.

The fabrication and support sectors of the oil and gas industry are critical elements of this valuable energy supply and will grow in importance as the deepwater plays expand.

In addition, as hurricanes Katrina and Rita showed, this energy supply is at risk. By introducing additional deepwater capacity in the Gulf of Mexico offshore rig and component fabrication sector allows the domestic oil and gas industry to get back online more quickly after experiencing disruptions such as occurred recently with hurricanes Katrina and Rita. With an increase in the number of fabricators, a backlog of repair work could be accomplished more quickly thus minimizing the potential disruption to the flow of offshore domestically generated oil and gas products and services.

It should also be noted that because of the importance of oil and gas production to the national economy, investments supporting the offshore, deepwater, production of domestically generated petroleum and gas products would further support National Security.

## SUMMARY OF RESULTS

Table 1 shows 24 possible outcomes for each of the three alternative channel depths. Average annual net benefits range from a high of \$10.4 million (for a 20-foot channel assuming MMS high GOM market size and the largest POI market share) to a low of \$-6.6 million (for a 20-foot channel assuming MMS low GOM market size and the smallest POI market share). With such a wide range of outcomes, a procedure for processing this information becomes a necessity for selecting a recommendation that is rational and supportable. The procedure ultimately employed included both quantitative and qualitative components.

A useful starting point is to address the issue of probabilities. With the assignment of probabilities to the GOM market size and the POI market share, an expected value for net benefits could be computed for each channel depth. Also, probability assignment could be used to designate a particular combination of GOM market size and POI market share conditions as “most likely.” In both these cases a straightforward path to the alternative plan that maximizes net benefits would be available.

However, it was not felt that identification of probabilities, or designation as “most probable”, was supportable for both GOM market and POI market share. For only one of these components, GOM market size, was it felt that sufficient justification existed to permit selection of a particular scenario as “most likely”. Identification of MMS high as “most likely”, of the three projections available was based on two considerations. The first of these was the assumed price of oil. The oil price assumption for the high forecast was \$46 per barrel. The price of oil is not linearly related to the exploration, the discovery of reserves, or the number of platforms demanded. However, the relationship is positively correlated, i.e. a higher oil price does translate to an increase in the number of forecasted platforms. There is a general consensus that a significant decline in the current price, which recently reached a record high of over \$76 per barrel, is not anticipated in the foreseeable future. The second consideration justifying designation of MMS high as “most probable” was the upward trend in estimates of undiscovered reserves. MMS estimates of undiscovered resources made in 1996, 2001, and 2006 have been 8.3 billion barrels, 37.1 billion barrels, and 44.9 billion barrels, respectively. The increased estimates over time reflect, among other things, how knowledge of the subsurface has improved because of improved data and technology. As is the case with oil price and ultimate platform demand, the relationship between undiscovered resources and platform demand is positively correlated in the MMS model, i.e. as the price of oil increases so will the demand for platforms increase. In consideration of all the factors mentioned above, it was concluded that designation of MMS high as “most probable” of these three projections was appropriate given that the MMS low and Infield forecasts of the GOM market size fell below the MMS high forecast.

**Table 1. Average Annual Net Benefits**  
(5.125 interest rate, thousands of dollars)

Scenario	Infield GOM Market		MMS High GOM Market		MMS Low GOM Market	
	No Increased Competition	Increased Competition	No Increased Competition	Increased Competition	No Increased Competition	Increased Competition
16 Foot Channel	3,274	1,599	7,430	5,272	1,335	(114)
18 Foot Channel	2,982	1,530	7,541	5,670	855	(401)
20 Foot Channel	4,702	1,965	10,371	6,846	2,056	(312)
<b>20 Percent EPC</b>						
16 Foot Channel	371	(969)	3,689	1,962	(1,178)	(2,337)
18 Foot Channel	302	(1,373)	4,087	1,929	(1,464)	(2,914)
20 Foot Channel	793	(1,441)	5,335	2,457	(1,327)	(3,260)
<b>50 Percent Integration</b>						
16 Foot Channel	(634)	(1,751)	2,394	955	(2,047)	(3,014)
18 Foot Channel	(1,485)	(2,825)	1,785	58	(3,011)	(4,170)
20 Foot Channel	(2,334)	(3,898)	1,306	(708)	(4,033)	(5,386)
<b>Staging</b>						
16 Foot Channel	(2,198)	(3,147)	379	(844)	(3,400)	(4,222)
18 Foot Channel	(3,048)	(4,221)	(229)	(1,740)	(4,364)	(5,378)
20 Foot Channel	(3,898)	(5,293)	(708)	(2,507)	(5,386)	(6,594)

Note: The market share effects are sequential and cumulative rather than independent of each other.

For POI market share the components, that form the basis of the scenario construction, do not lend themselves to quantitative analysis based on empirical data. Assignment of probabilities through a subjective process of expert elicitation was considered and dismissed as ultimately not likely to be definitive, as well as, perhaps, for not being completely consistent with the initial motivation for casting the analysis in a scenario-based framework.

Ultimately, it was decided that net benefits maximization assuming the MMS high forecast for GOM market size and a mid-range condition for POI market share, along with consideration of other unquantified and qualitative considerations should form the basis of the process used to select the recommended plan.

The first step of the process was to consider the results of the net benefits analysis assuming the MMS high GOM market size forecast and a mid-range condition for POI market share. The mid-range condition for POI market share was computed as the average of the highest and lowest POI market shares. A mid-point for each channel depth alternative between the highest market share scenario (Competition) and the lowest market share scenario (Staging), the two extreme endpoints for the scenarios, was calculated. For example, referring to the MMS High GOM Market forecast in table 1, the 20 ft channel alternative net benefit values of \$10,371 and -708 were averaged for the No Increased Competition scenario and the net benefit values of \$6,846 and -2,507 were averaged for the Increased Competition scenario. Table 2 displays the results from this intermediate step for each of the alternative channel depths. Lastly the mid-point was taken between the No Increased Competition and Increased Competition data points. For example, referring to table 2, the 20 ft channel alternative net benefit values of \$4,831 and \$2,170 were averaged. Table 3 displays the results from this final step in calculating an appropriate average annual net benefit estimate for each of the channel depths. The results demonstrate that the 20-foot channel maximizes net benefits. The resulting net benefits for the 20-foot channel are \$3.5 million and the resulting benefit to cost ratio is 1.2.

This process of using the MMS high GOM market size forecast and a mid-range condition for POI market share results in a GOM deepwater topsides market of 73 structures and a POI market share of 19 percent (14 contracts).

**Table 2**  
**Mid-Point between Competition and Staging Scenario**  
(5.125 interest rate, thousands of dollars)

Alternative	MMS High GOM Market	
	No Increased Competition	Increased Competition
16 Foot Channel	3,905	2,214
18 Foot Channel	3,656	1,965
20 Foot Channel	4,831	2,170

**Table 3**  
**Average Annual Net Benefits**  
MMS High GOM Market  
Mid-Range Conditions – POI Market Share  
(5.125 interest rate, thousands of dollars)

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Alternative	Mid-Point of No Increased & Increased Competition
16 Foot Channel	3,059
18 Foot Channel	2,810
20 Foot Channel	3,500

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### Additional Considerations to Net Benefit Analysis

As previously suggested, it is believed that assumptions regarding the price of oil and the magnitude of undiscovered reserves included in MMS modeling of GOM market size tend to understate somewhat the estimates of benefits associated with channel deepening at the POI. In addition to these considerations, there is potentially another consideration that should be addressed. This additional consideration deals with the assumed water depths of platforms placement. The analysis of channel deepening benefits assumes that the topsides that could be fabricated at the POI with channel deepening would be deployed at sites in at least 400 meters of water. Consequently, only the forecasted platforms, only those assumed to be placed in excess of 400 meters were considered as the relevant GOM market size as related to POI channel deepening. To the extent that platforms placed in less than 400 meters would also be a part of the potential GOM market that the POI could compete for with a deeper channel, the GOM market and associated potential benefits of channel deepening would be underestimated.

### RECOMMENDATION

The MMS high GOM market and a mid-range condition for POI market share maximize net benefits with a 20-ft channel. On the basis of this and the considerations mentioned above that would result in an underestimation of the GOM market, as well as consideration of unquantified transportation savings benefits and the qualitatively described benefit to the oil and gas industry of POI channel deepening, the 20 ft channel is identified as the recommended plan. The resulting net benefits for the 20-foot channel are \$3.5 million and the resulting benefit to cost ratio is 1.2.

## MEMORANDUM FOR Record

SUBJECT: Telecon with representatives of Minerals Management Service (MMS)

1. The subject telecon was held on Friday, September 29, 2006, to discuss MMS's deep-water Gulf of Mexico platform forecasts and their underlying assumptions as they relate to the Port of Iberia Navigation Feasibility Study. The telecon was convened at the suggestion of General Carl A. Strock to give all members of the extended project delivery team (PDT), including Senator Landrieu's office, the opportunity to seek clarifying information from MMS that the entire group could hear first-hand.

2. MMS' Resource Evaluation group develops two types of analyses – oil price and supply relationships and forecasts of deep-water platforms. The focus of their investigations is discovery, not necessarily extraction. The focus of their deep-water platform forecasts are economic and environmental -- economic to estimate potential production and resultant revenues from leases and environmental to assess the potential adverse environmental impacts of deep-water platforms. The methods they employ are reasonable and appropriate to their analysis, and as was stated several times during the call, they are not modeling future deepwater topside fabrication by GOM firms. It may not be suitable to use their deepwater platform forecasts in that way.

3. The embedded price assumption in their platform forecasting model reflects an average annual equivalent value. In the case of the MMS high forecast, the assumed price is \$48/barrel, and the recoverable reserve estimates reflect oil that can be economically extracted at \$48/barrel. While current prices are significantly higher, MMS reconfirmed their agreement with OWPR's assertion that data show that current oil prices or higher, if sustained, have little effect on undiscovered economically recoverable reserves. The MMS had previously provided data in a tabular form to Mr. Bubba Gesser via email. The data indicated that with an assumed 52% increase in price (\$46 to \$70), the amount of economically recoverable reserves increases only 9% (34 to 37 bbl).

[What would be the potential impact of an assumed 9% increase in estimated economically recoverable reserves on GOM deepwater platforms? The current methodology was applied to an example. It is important to note that any increases in the number of platforms resulting from a 9% increase in economically recoverable reserves would be reduced first by 70% to remove the sub-sea structures, and then second reduced by 75% to display the maximum potential POI firm share. If the 9% increase in economically recoverable reserves resulted in 12 additional deepwater platforms (for example) for the MMS high forecast, only 1 would result in a topside potentially fabricated by POI firms ( $12 \times 0.3 \times 0.25$ ), and given the distribution of topsides by

size/type, there is an 80% likelihood it would be a 10,000-ton unit capable of moving on the 16-foot channel.]

4. Previous forecast (2002) included assumptions of lower priced oil and lower levels of reserves, yet the deep-water platforms forecasts were 20% higher. The MMS explained that the new model improved their analysis technique. At the same time, the revised platform estimates reflect the effects of advancing technology. Wells are increasingly consolidated with a single surface-breaking platform, known as a hub, rather than many individual platforms. Further, individual wells are much more productive such that more oil is being extracted from existing sites.

5. The estimate of undiscovered technically recoverable reserves (UTRR) presented in the 2006 National Assessment already account for recent discoveries on the Gulf of Mexico. MMS does not routinely revise their estimates of undiscovered economically recoverable reserves with any new discovery, because the reserves can prove to be unextractable.

6. MMS clarified a number of other points that have not been uniformly understood, as follows:

a. Model updates occur, generally, on 5 year increments. The recent updates are used to support socio economic and environmental impacts associated with potential near term lease actions, although projections are extended 45 years into the future. The current model (2006) focuses on actions from 2007 – 2012, and the next model update would focus on 2013 – 2018.

b. Model results in the GOM are focused on the central and western GOM, and a small portion of the eastern GOM. MMS indicated that they did not foresee leasing occurring in the eastern GOM for 5 – 10 years.

c. Model results are not “extremely conservative” as they have been in the past, as modeling efforts have improved over time. MMS indicated the model produces reliable results on a nationwide basis, although there may be some regions where the results are more conservative than the others. MMS did not officially indicate the estimates were conservative, but when pushed on the issue, one MMS employee indicated that it was his personal opinion that the results are conservative, but not unnecessarily so.

d. When pressed about the article in the NY Times, MMS indicated that did not agree with the findings of the article (the article indicated that the recent “jack discover” was an indication that supply could increase 50% nationwide).

e. MMS indicated that they used a low and high scenario to bound the potential range of lease actions as the basis for their associated socio-economic and environmental analyses. While MMS indicated, when pushed, whether it was appropriate to use MMS High as the basis for the Corps analyses, they concurred. However, given that our purposes are similar (to bound the potential range of topside platform production vs lease

actions for analysis), HQ remains convinced that both low and high scenarios should be considered in the decision making process.

6. The clarifying information by MMS reaffirmed the OWPR assessment of the project recommendation – nothing more than a 16-foot channel is indicated at POI. Considering only the MMS High forecast is not meaningful, nor does it alone provide a clear indication for a 20-foot channel recommendation. If anything, the additional information leads more credence to the forecast developed by Infield, given that it was specifically developed as estimates of the GOM market for deepwater topsides by size, type, and water depth. Furthermore, the 16-foot channel plan can accommodate all forecast topsides, requiring only one to two topsides over the 50-year analysis period to transit the channel with modules on two barges.

## Telecon Participants

Robyn Colosimo, HQ  
Zoltan Montvai, HQ  
Wes Coleman, Jr., HQ  
Becky Moyer, HQ  
Rayford Wilbanks, MVD  
Greg Ruff, MVD  
Les Waguespeck, MVD  
Carol Burdine, MVN  
Bubba Gesser, Sen Landrieu's Office  
Roy Pontiff, POI  
O'Neil Malborough, POI  
Sharon Balfour, LADoT  
Thierry Decort, MMS  
Richard Deselles, MMS